Service Manual

PIONEER
The Art of Entertainment
TOYOTA

ORDER NO.
CRT2064

LEXUS LS400
AUDIO SYSTEM
HEAD UNIT

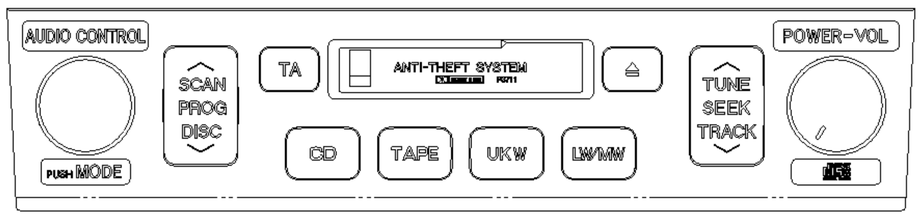
VEHICLE	DESTINATION	PRODUCED AFTER	ID No.	TOYOTA PART No.	PIONEER MODEL No.
LEXUS LS400	U.K.	August 1997	P3711	86120-50560	KEX-M9376ZT/EW
LEXUS LS400	EUROPE		P3710	86120-50550	KEX-M9276ZT/EW

Manufactured for TOYOTA
by PIONEER ELECTRONIC CORPORATION

PUB. NO. **CRT2064**

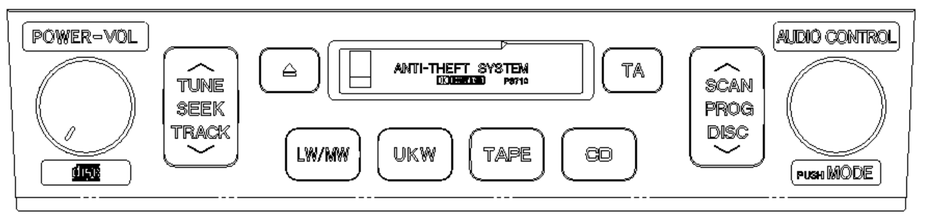
KEX-M9376ZT,M9376ZT-91,M9276ZT,M9276ZT-91

KEX-M9376ZT/EW



ID No. P3711

KEX-M9276ZT/EW



ID No. P3710

- **Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation. "Dolby" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.**
- **See the separate manual CX-529 (CRT1507) for the cassette mechanism description.**
- **The cassette mechanism employed in this model is one of 2L mechanism description.**
- **Supplementary model is identical to the original except for the addition of following items.**

Description	Part No.	
	KEX-M9376ZT-91/EW	KEX-M9276ZT-91/EW
Polyethylene Bag	CEG1042	CEG1042
Cover	CEG1045	CEG1045
Carton	CHA1718	CHA1718
Contain Box	CHD1718	CHD1718

CONTENTS

1. SEFETY INFORMATION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

2. EXPLODED VIEWS AND PARTS LIST

2.1 EXTERIOR

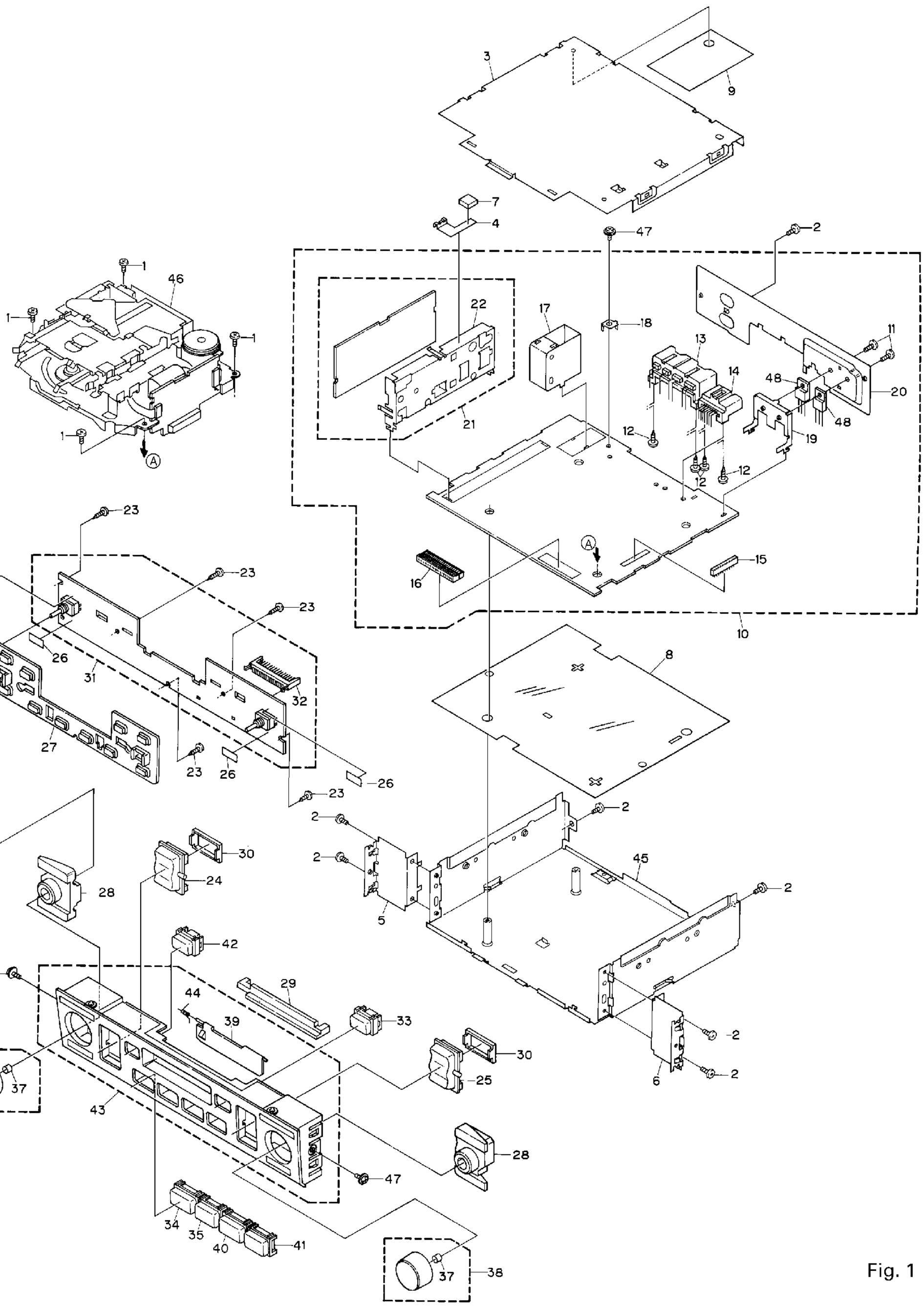


Fig. 1

NOTE:

- Parts marked by "*"are generally unavailable because they are not in our Master Spare Parts List.
- Screws adjacent to ▼ mark on the product are used for disassembly.

● EXTERIOR SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	Screw	BMZ26P050FMC
	2	Screw	BMZ30P040FMC
	3	Case	CNB2255
*	4	Plate	CNC6739
	5	Bracket	CNC7318
	6	Bracket	CNC7319
	7	Spacer	CNM4305
*	8	Insulator	CNM5144
	9	Spacer	CNM5498
	10	Control Unit(M9276ZT)	CWM5024
		Control Unit(M9376ZT)	CWM5085
	11	Screw	BMZ30P080FMC
	12	Screw	CBA1339
	13	Connector(CN801)	CKM1222
	14	Connector(CN802)	CKM1238
	15	Connector(CN702)	CKS2752
	16	Connector(CN701)	CKS3627
	17	Antenna Jack(CN501)	CKX1041
	18	Holder(CN803)	CNC2218
	19	Holder	CNC6926
	20	Holder	CNC6927
	21	Tuner Unit	CWE1456
	22	Holder	CNC6122
	23	Screw	BPZ26P100FMC
	24	Button(M9276ZT)	CAC4929
		Button(M9376ZT)	CAC4930
	25	Button(M9276ZT)	CAC4930
		Button(M9376ZT)	CAC4929
	26	Cushion	CNM5607
	27	Rubber	CNV4794
*	28	Lighting Conductor	CNV4795
	29	Lighting Conductor	CNV4812
*	30	Holder	CNV4949
	31	Keyboard Unit(M9276ZT)	CWM5023
		Keyboard Unit(M9376ZT)	CWM5025
	32	Connector(CN901)	CKS3626
	33	Button Assy(M9276ZT)	CXA9746
		Button Assy(M9376ZT)	CXB1610
	34	Button Assy(M9276ZT)	CXA9748
		Button Assy(M9376ZT)	CXB1609
	35	Button Assy(M9276ZT)	CXA9749
		Button Assy(M9376ZT)	CXB1608
	36	Knob Assy(M9276ZT)	CXB1132
		Knob Assy(M9376ZT)	CXB1133
	37	Spring	CBL-108
	38	Knob Assy(M9276ZT)	CXB1133
		Knob Assy(M9376ZT)	CXB1132
*	39	Door(M9276ZT)	CAT1868
*		Door(M9376ZT)	CAT1869
	40	Button Assy(M9276ZT)	CXB1608
		Button Assy(M9376ZT)	CXA9749
	41	Button Assy(M9276ZT)	CXB1609
		Button Assy(M9376ZT)	CXA9748
	42	Button Assy(M9276ZT)	CXB1610
		Button Assy(M9376ZT)	CXA9746
	43	Grille Unit(M9276ZT)	CXB2167
		Grille Unit(M9376ZT)	CXB2168
	44	Spring	CBH1371
	45	Chassis Unit	CXA9825
	46	Cassette Mechanism Module	EXK3230
	47	Screw	IMS30P050FMC
	48	Transistor(Q813,824)	2SB1185

2.2 CASSETTE MECHANISM MODULE

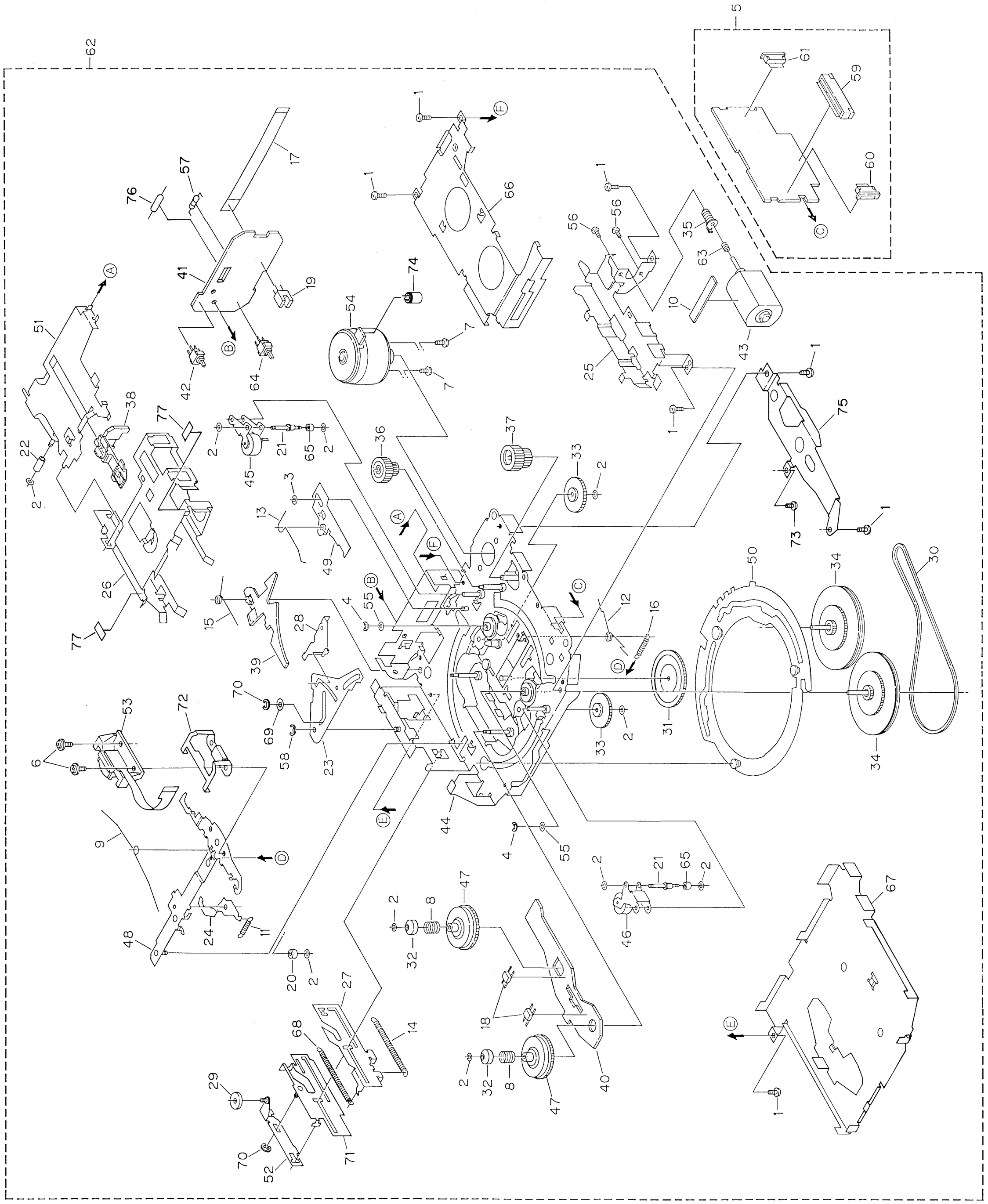


Fig. 2

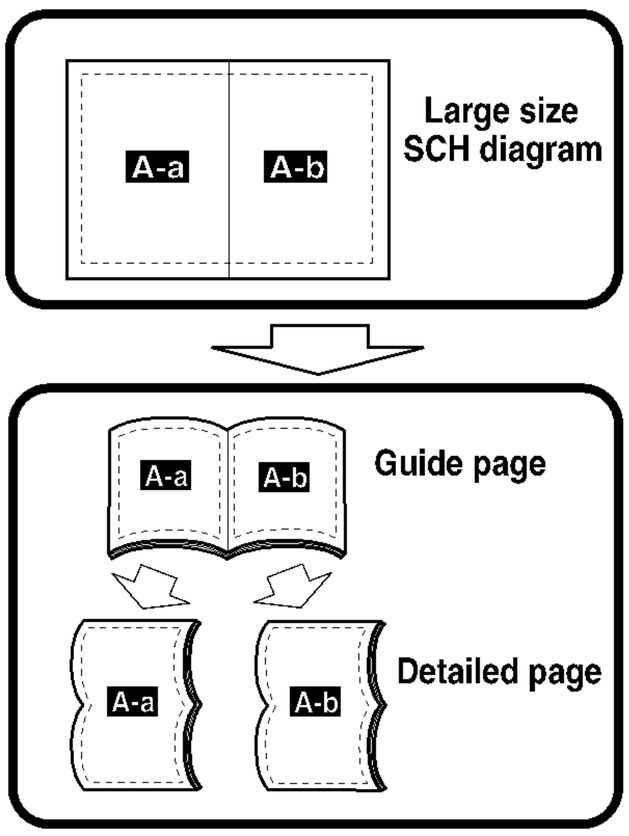
● CASSETTE MECHANISM MODULE SECTION PARTS LIST

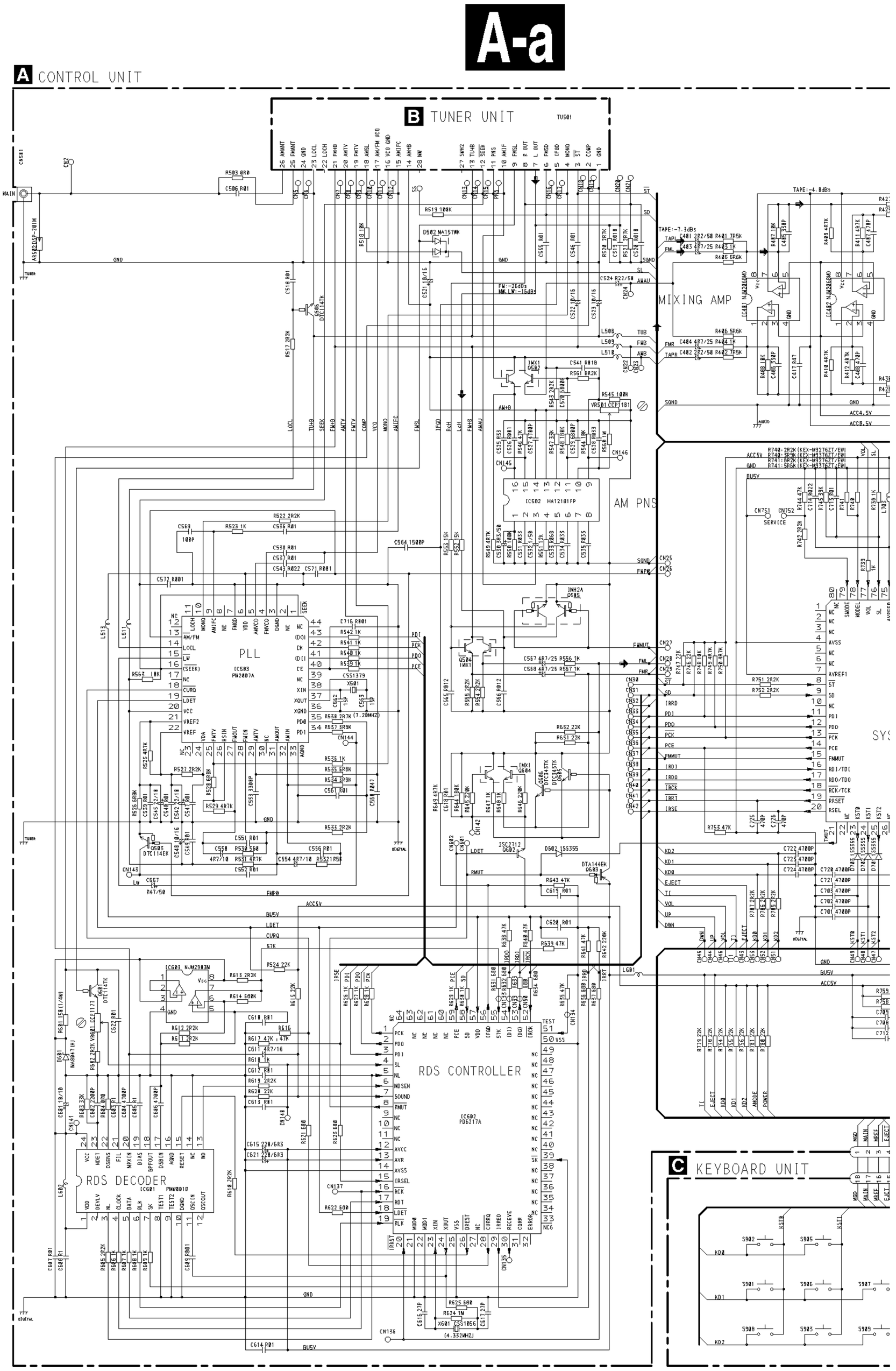
Mark No.	Description	Part No.
1	Screw	BSZ20P040FMC
2	Washer	CBF1037
3	Washer	CBF1038
4	Washer	CBG1003
5	Deck Unit	EWM1007
6	Screw(M2×5)	EBA1028
7	Screw(M2×2.5)	EBA1037
8	Spring	EBH1531
9	Spring	EBH1589
10	Cushion	ENM1034
11	Spring	EBH1515
12	Spring	EBH1587
13	Spring	EBH1517
14	Spring	EBH1547
15	Spring	EBH1519
16	Spring	EBH1537
17	Cord	EDD1015
18	Photo-reflector(EGN2, 3)	EGN1004
19	Photo-Interrupter(EGN1)	EGN1005
20	Roller	ENR1031
21	Shaft	ELA1362
22	Roller	ELA1348
23	Arm	ENC1416
24	Arm	ENC1397
25	Guide	ENC1398
26	Holder	ENC1417
27	Lever	ENC1449
28	Arm	ENC1401
29	Roller	ENR1027
30	Belt	ENT1027
31	Gear	ENV1347
32	Collar	ENV1508
33	Gear	ENV1350
34	Flywheel	ENV1410
35	Worm Gear	ENV1439
36	Worm Wheel	ENV1440
37	Gear	ENR1028
38	Lever	ENV1455
39	Arm	ENV1445
40	Gathering PCB	ENX1029
41	Gathering PCB	ENX1041
42	Switch(S1)	ESG1004
43	Motor Unit(M2)	EXA1485
44	Chassis Unit	EXA1494
45	Pinch Roller Unit	EXA1472
46	Pinch Roller Unit	EXA1473
47	Reel Unit	EXA1484
48	Head Base Unit	EXA1434
49	Lever Unit	EXA1438
50	Gear Unit	EXA1436
51	Frame Unit	EXA1476
52	Lever Unit	EXA1425
53	Head Assy(HD1)	EXA1481
54	Motor Unit(M1)	EXA1497
55	Washer	HBF-179
56	Screw	BMZ20P022FMC
57	Resistor(R1)	RD1/4HM181J
58	Washer	YE20FUC
59	Connector(CN251)	CKS1711
60	Connector(CN252)	CKS2127
61	Connector(CN253)	CKS2129
62	Spare Unit	EXA3023
63	Spring	EBH1545
64	Switch(S2)	ESG1004
65	Roller	ENR1023
66	Cover	ENC1412
67	Cover	ENC1413
68	Spring	EBH1546
69	Washer	EBE1008
70	Washer	YE15FUC
71	Lever Unit	EXA1424
72	Spring	EBL1026
73	Screw(M2×2)	CBA1250
74	Capacitor(C1)	CEA4R7M35LS2
75	Bracket	ENC1472
76	Inductor(L1)	ETH0001
77	Cushion	ENM1036

3. SCHEMATIC DIAGRAM

3.1 OVERALL CONNECTION DIAGRAM(GUIDE PAGE)

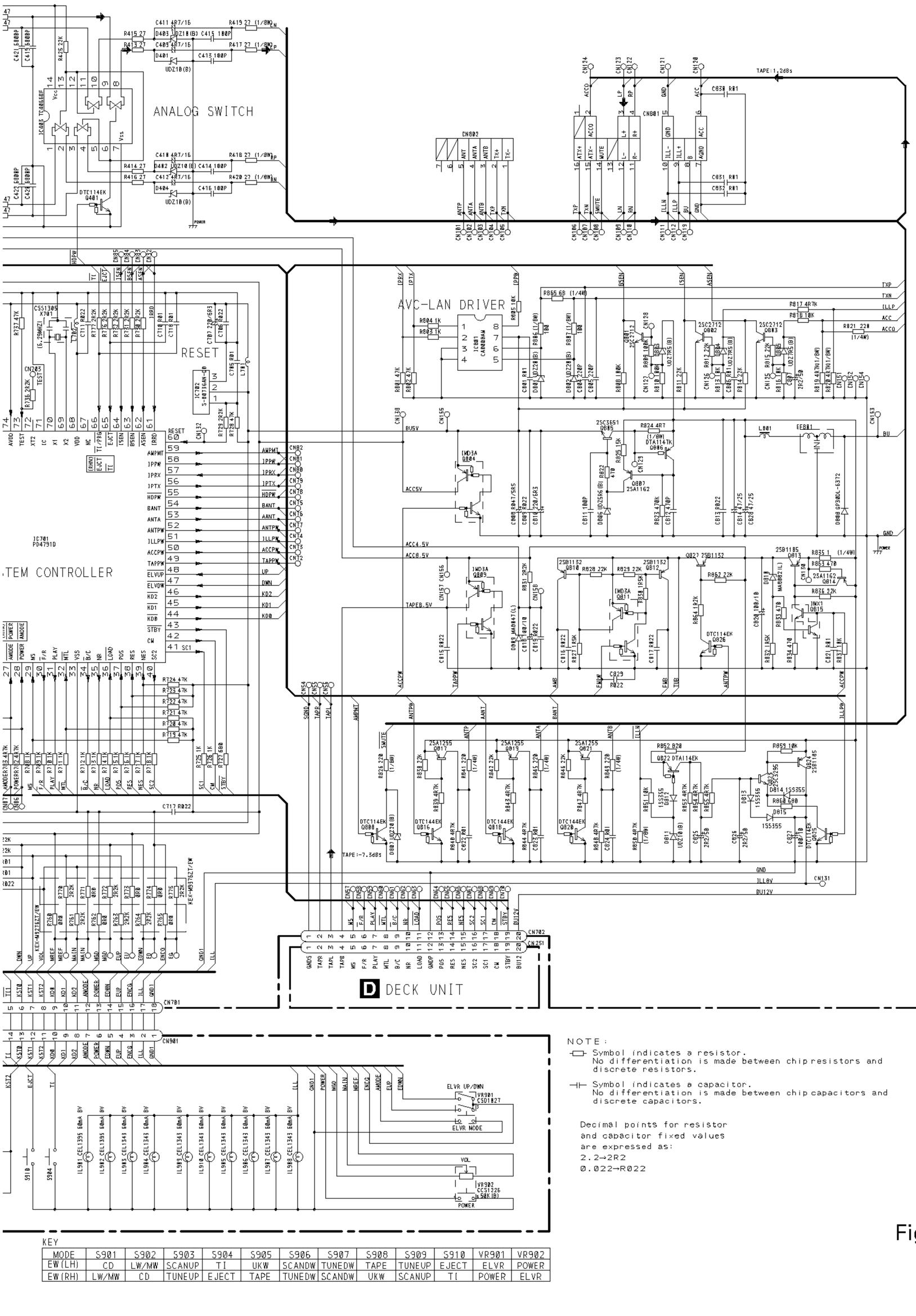
Note: When ordering service parts,be sure to refer to "EXPLODED VIEWS AND PARTS LIST"or"ELECTRICAL PARTS LIST".





A C

A-b



NOTE :

- Symbol indicates a resistor. No differentiation is made between chip resistors and discrete resistors.
- Symbol indicates a capacitor. No differentiation is made between chip capacitors and discrete capacitors.

Decimal points for resistor and capacitor fixed values are expressed as:
2.2→2R2
0.022→R022

KEY

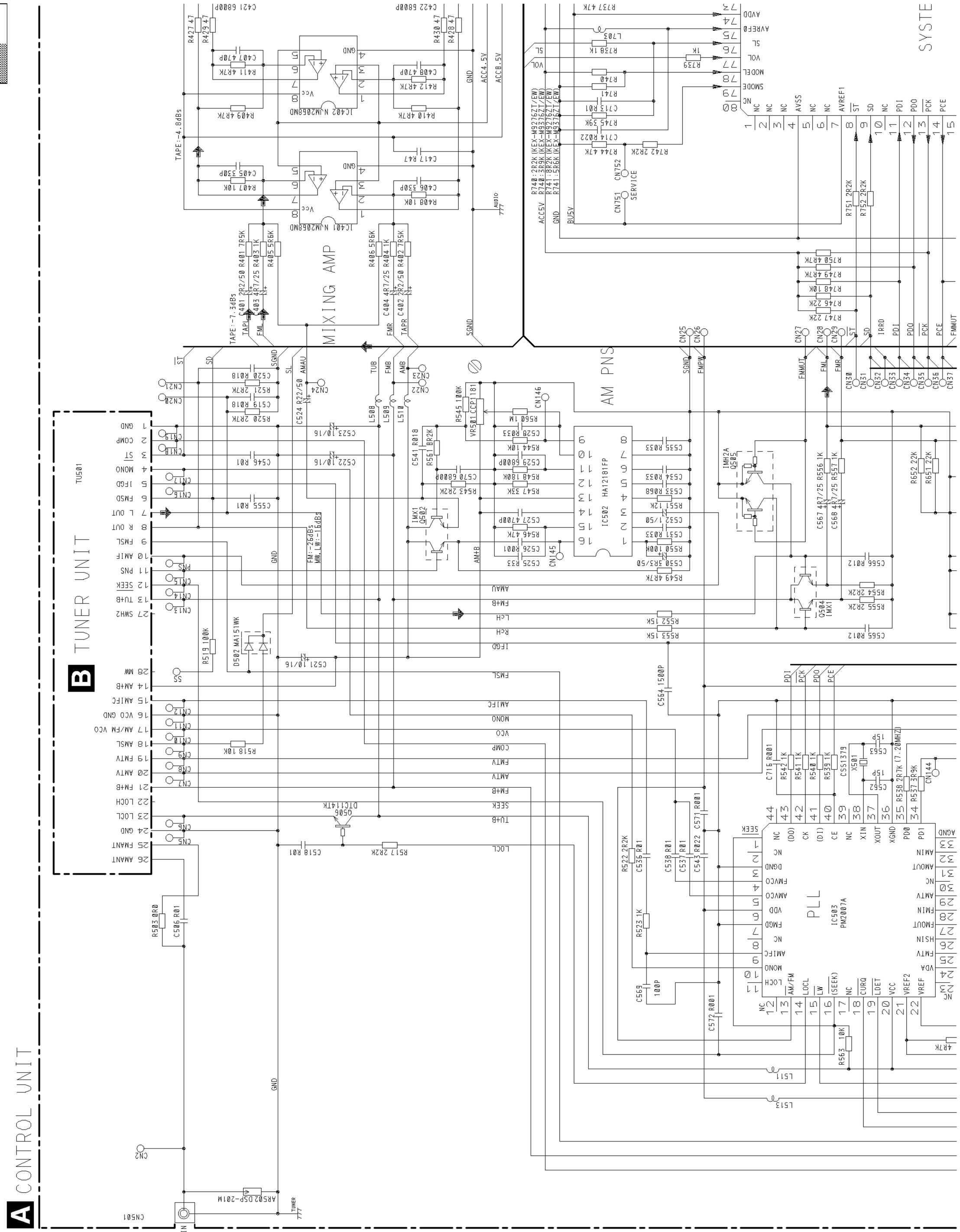
MODE	S901	S902	S903	S904	S905	S906	S907	S908	S909	S910	VR901	VR902
EW(LH)	CD	LW/MW	SCANUP	TI	UKW	SCANDW	TUNEDW	TAPE	TUNEUP	EJECT	ELVR	POWER
EW(RH)	LW/MW	CD	TUNEUP	EJECT	TAPE	TUNEDW	SCANDW	UKW	SCANUP	TI	POWER	ELVR

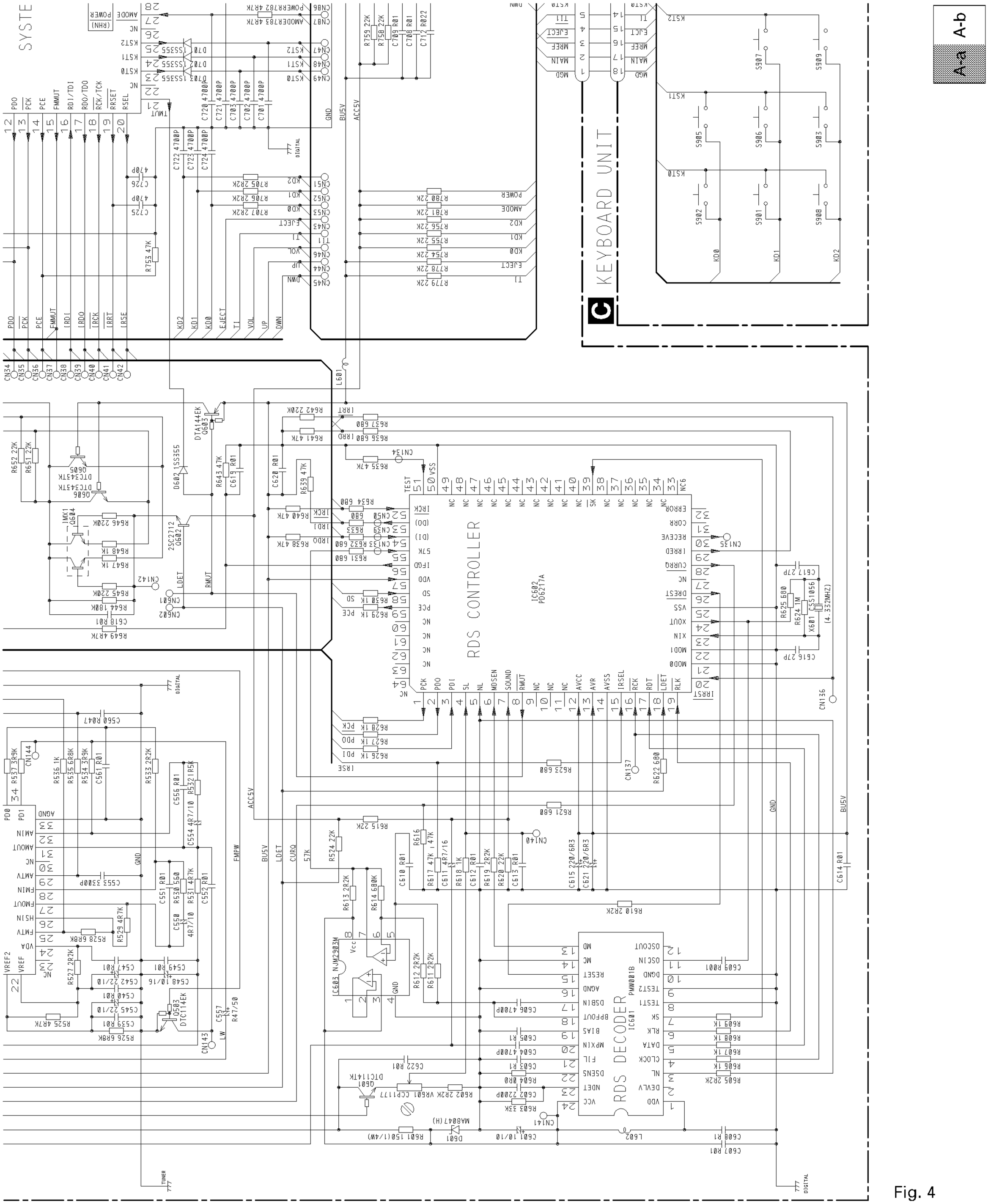
Fig. 3

A C

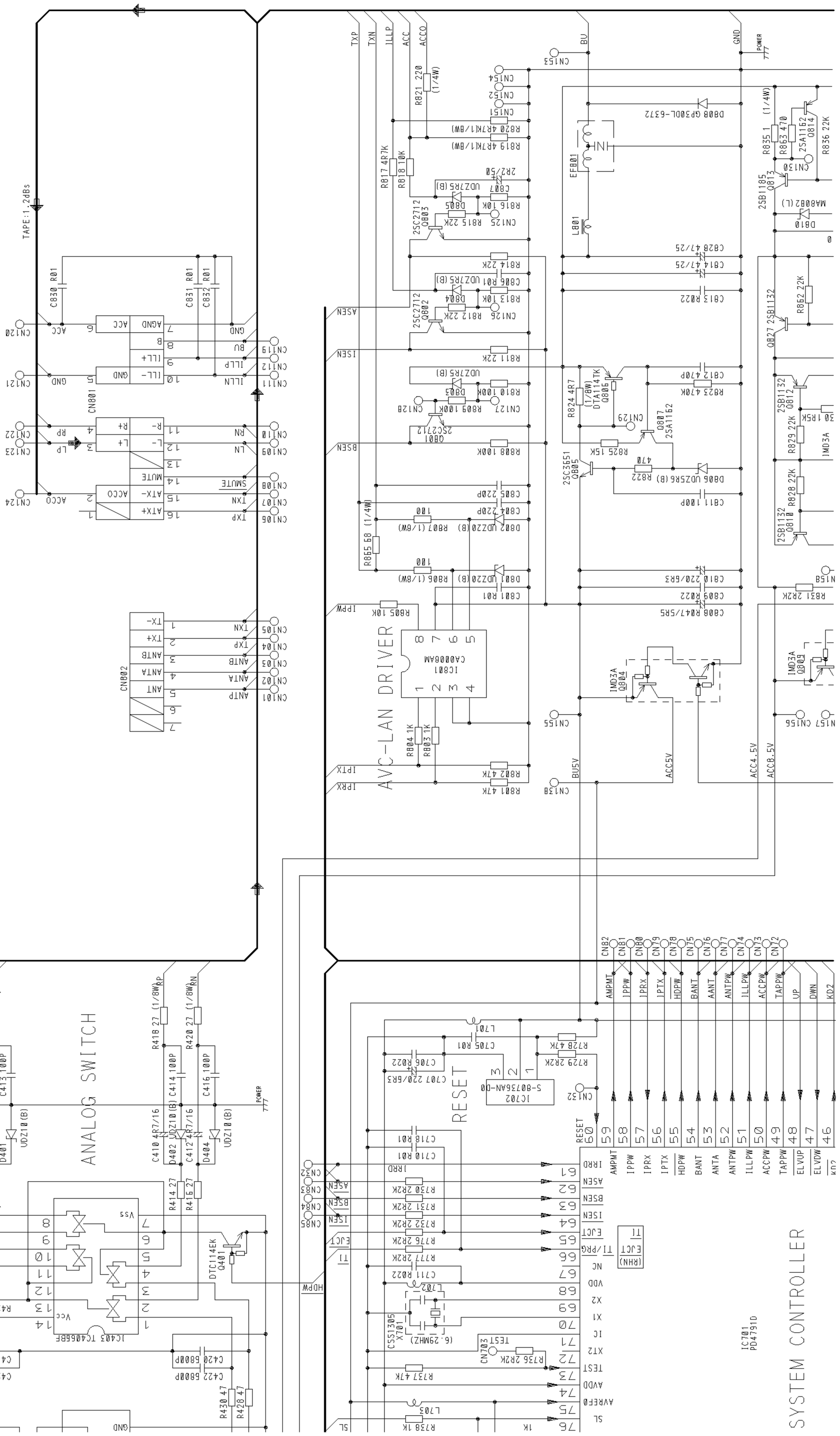
A-b

A-a


SYSTE
MIXING AMP
AM PNS
TUNER UNIT
CONTROL UNIT
PLL
IC503 PM2007A
IC502 HA12181FP
IC401 NJM2068MD
IC402 NJM2068MD
TU501
TAPE:-4.8dBs
TAPE:-7.3dBs
FM:-26dBs
MW,LW:-16dBs
TUNER
MAIN
GND
SGND
ACC4.5V
ACC8.5V
AUDIO
BU5V
FMMUT
FMPW
AMAU
FM+B
LCH
RCH
IFGD
FMSL
AMIFC
MONO
VCO
COMP
FMTV
AMTV
SEEK
TUIB
LOCL
SERVICE



A-a A-b



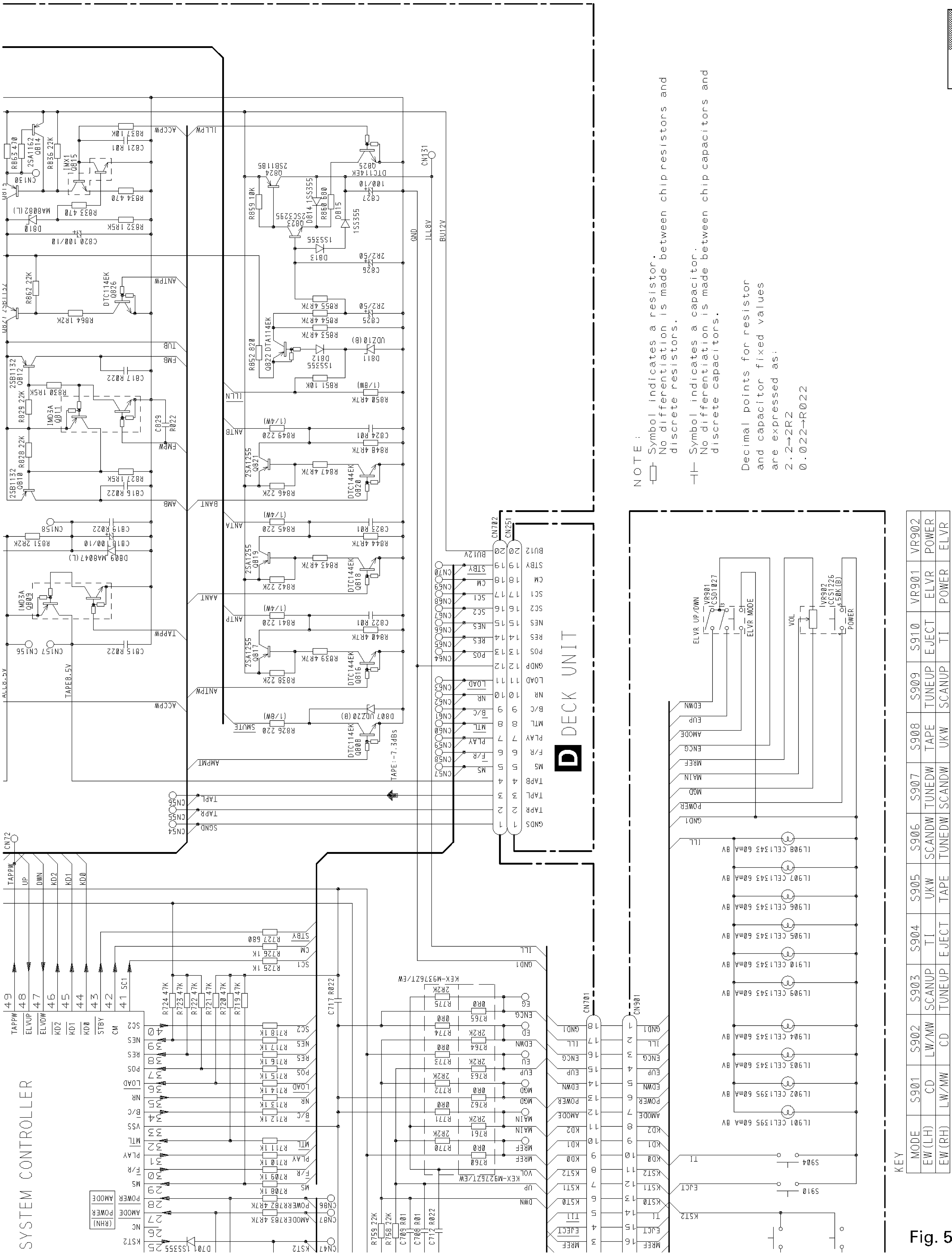
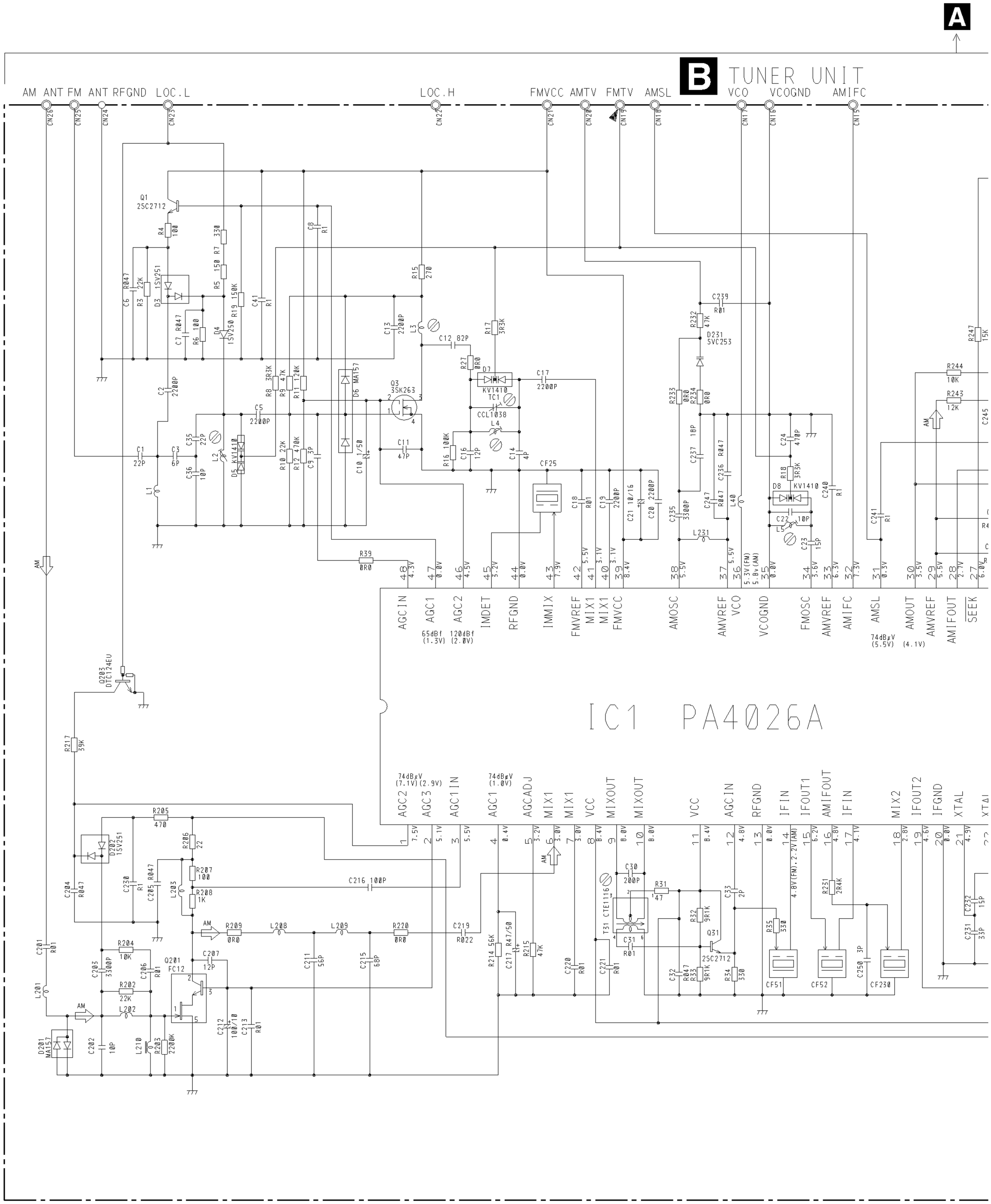

SYSTEM CONTROLLER
D DECK UNIT
NOTE:
Symbol indicates a resistor. No differentiation is made between chip resistors and discrete resistors.
Symbol indicates a capacitor. No differentiation is made between chip capacitors and discrete capacitors.
Decimal points for resistor and capacitor fixed values are expressed as:
2.2→2R2
0.022→R022
KEY
MODE S901 S902 S903 S904 S905 S906 S907 S908 S909 S910 VR901 VR902
EW(LH) CD LW/MW SCANUP TI UKW SCANDW TUNEDW TAPE TUNEUP EJECT ELVR POWER
EW(RH) LW/MW CD TUNEUP EJECT TAPE TUNEDW SCANDW UKW SCANUP TI POWER ELVR

Fig. 5

3.2 TUNER UNIT



A

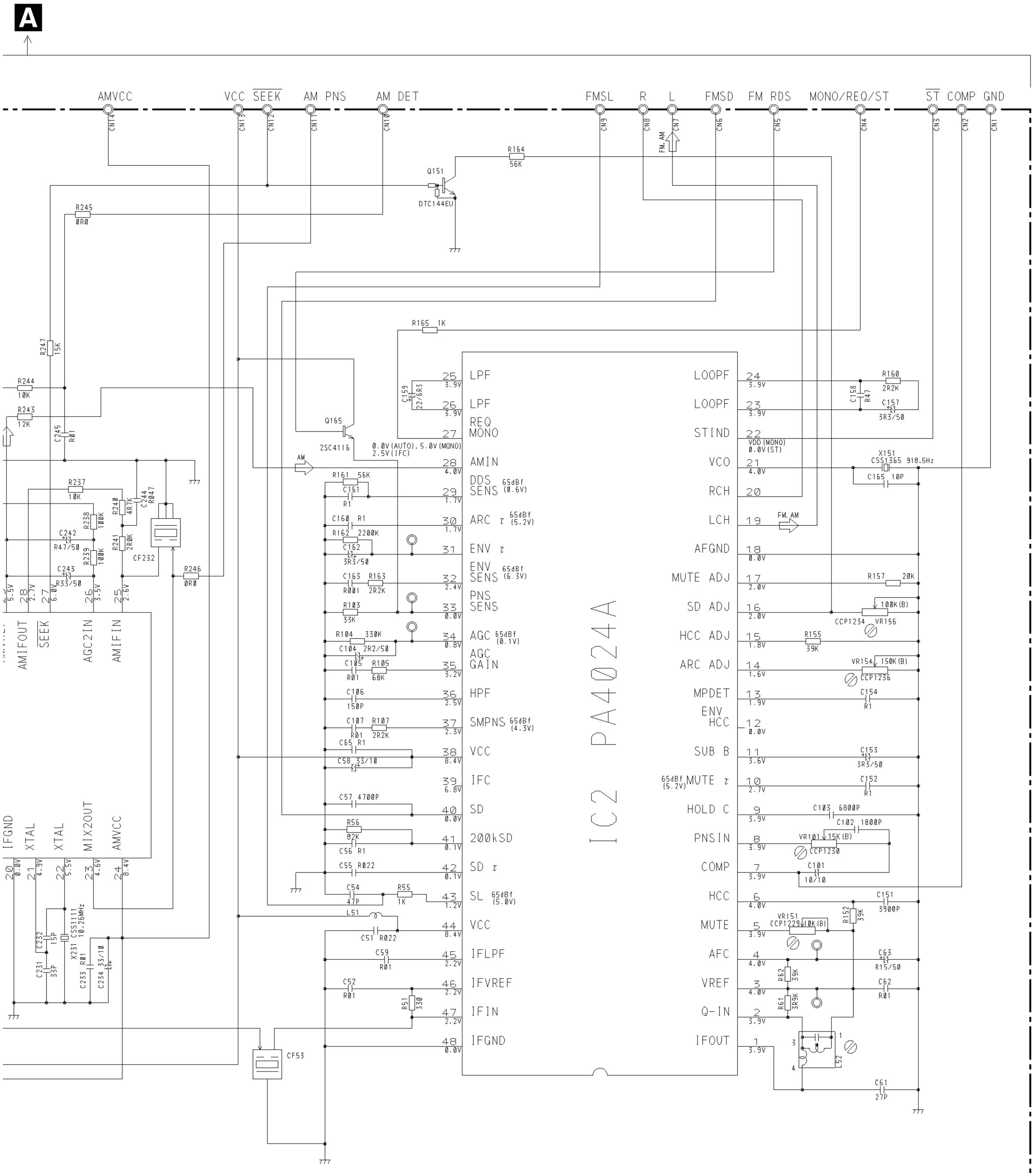
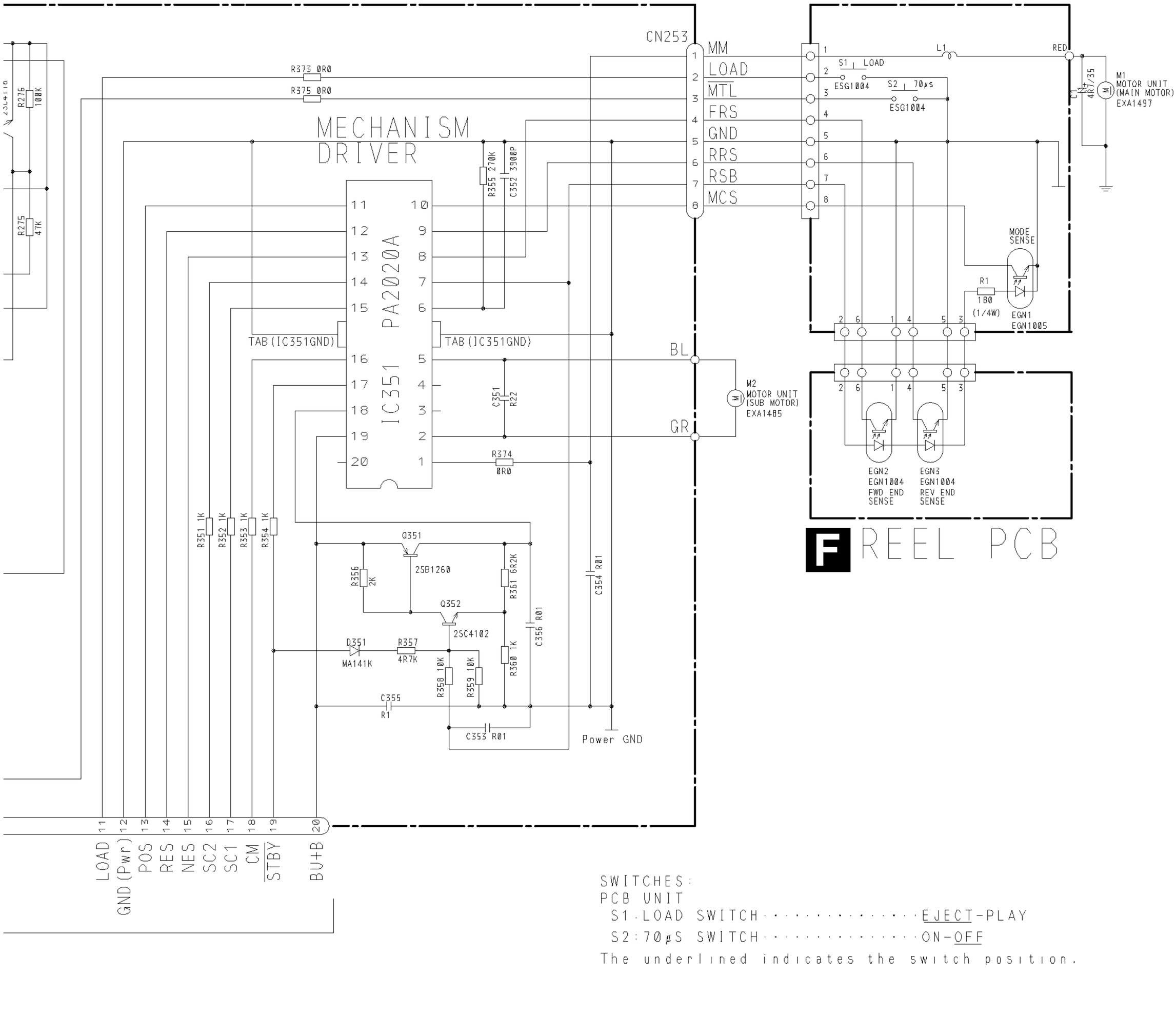


Fig. 6

B

3.3 CASSETTE MECHANISM MODULE

E PCB UNIT



F REEL PCB

SWITCHES:
PCB UNIT
S1:LOAD SWITCH ·····EJECT-PLAY
S2:70μS SWITCH ·····ON-OFF
The underlined indicates the switch position.

Fig. 7

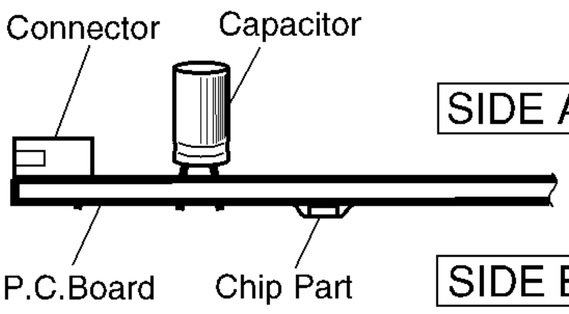
D E F

4. PCB CONNECTION DIAGRAM

4.1 CONTROL UNIT

NOTE FOR PCB DIAGRAMS

1. The parts mounted on this PCB include all necessary parts for several destination.
   For further information for respective destinations, be sure to check with the schematic diagram.
2. Viewpoint of PCB diagrams



IC, Q | ADJ

IC501 Q813 Q824
Q814
Q815 Q823

Q501

Q825

Q821 Q819 Q817
Q802
Q822

Q808 Q820 Q818 Q816
Q803
Q801 Q401

IC603 IC403 Q807 — VR601
Q601 IC801

Q806

IC601 Q805

IC402

IC401
IC702

B

IC602
IC503 Q503

IC701

Q506
Q604 Q603 Q606 Q809
Q502 Q804
Q602

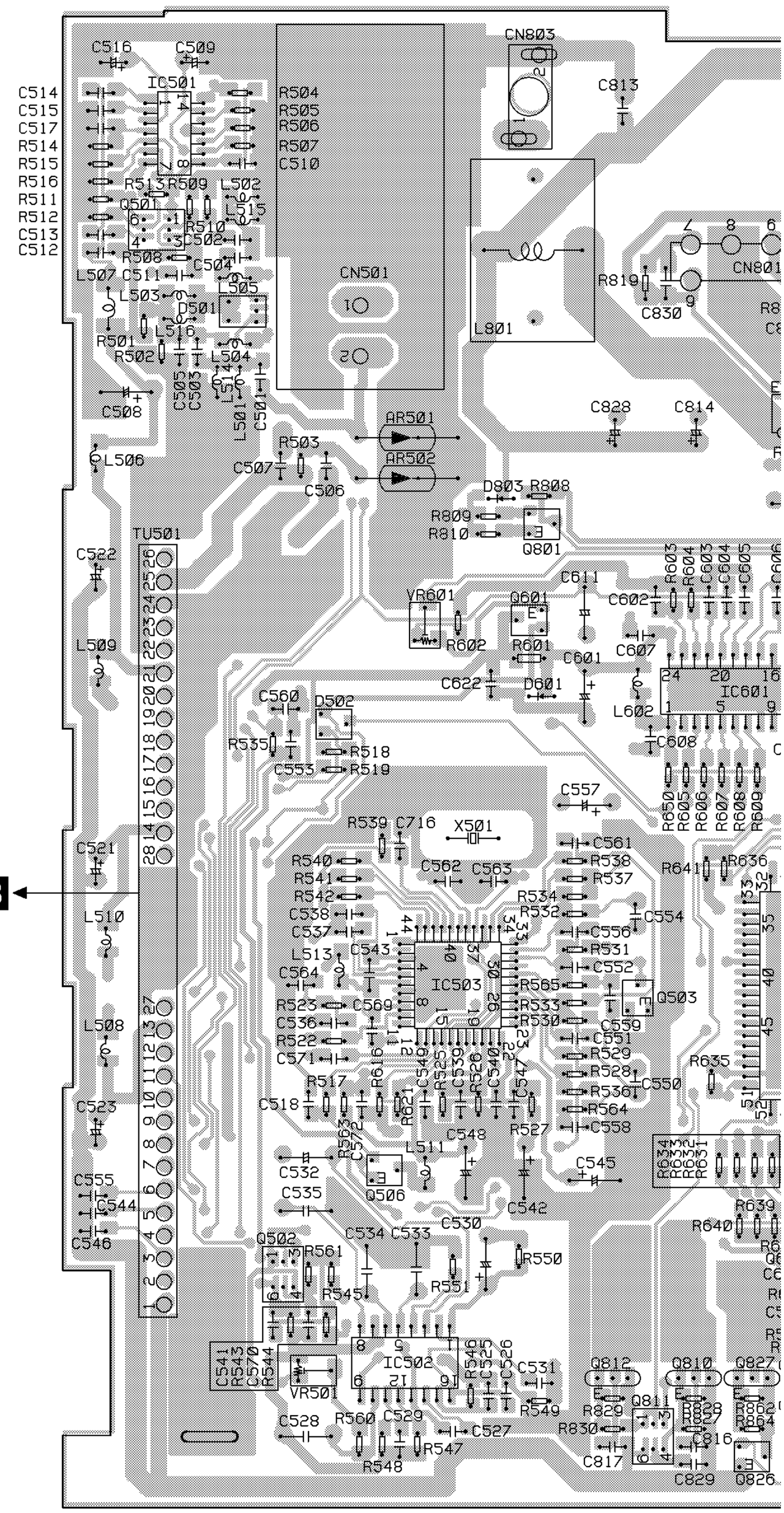
Q504

IC502 Q812 Q810 Q827

Q811 — VR501
Q505 Q605

Q826

A TUNER AMP ASSY



SIDE A

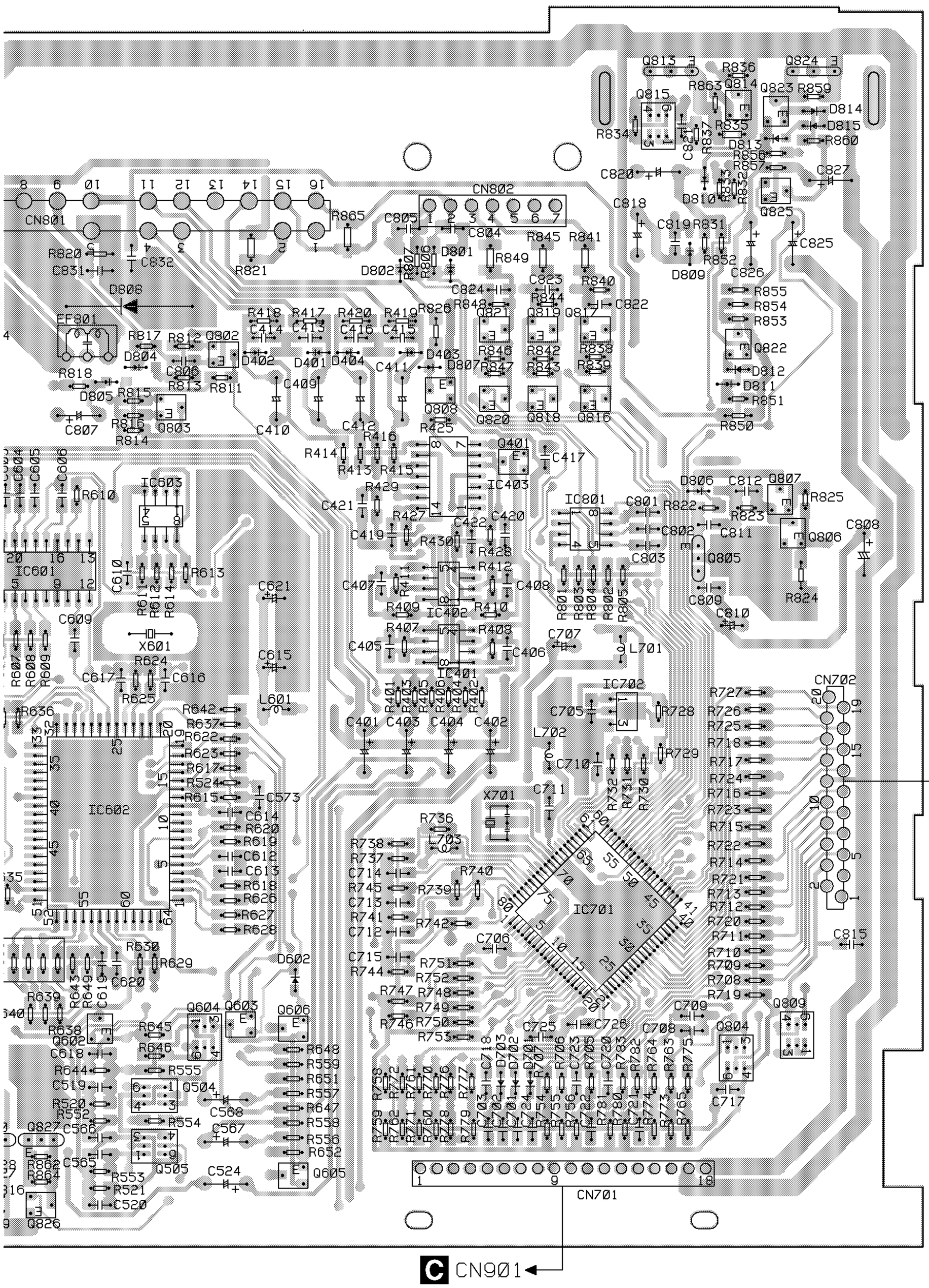
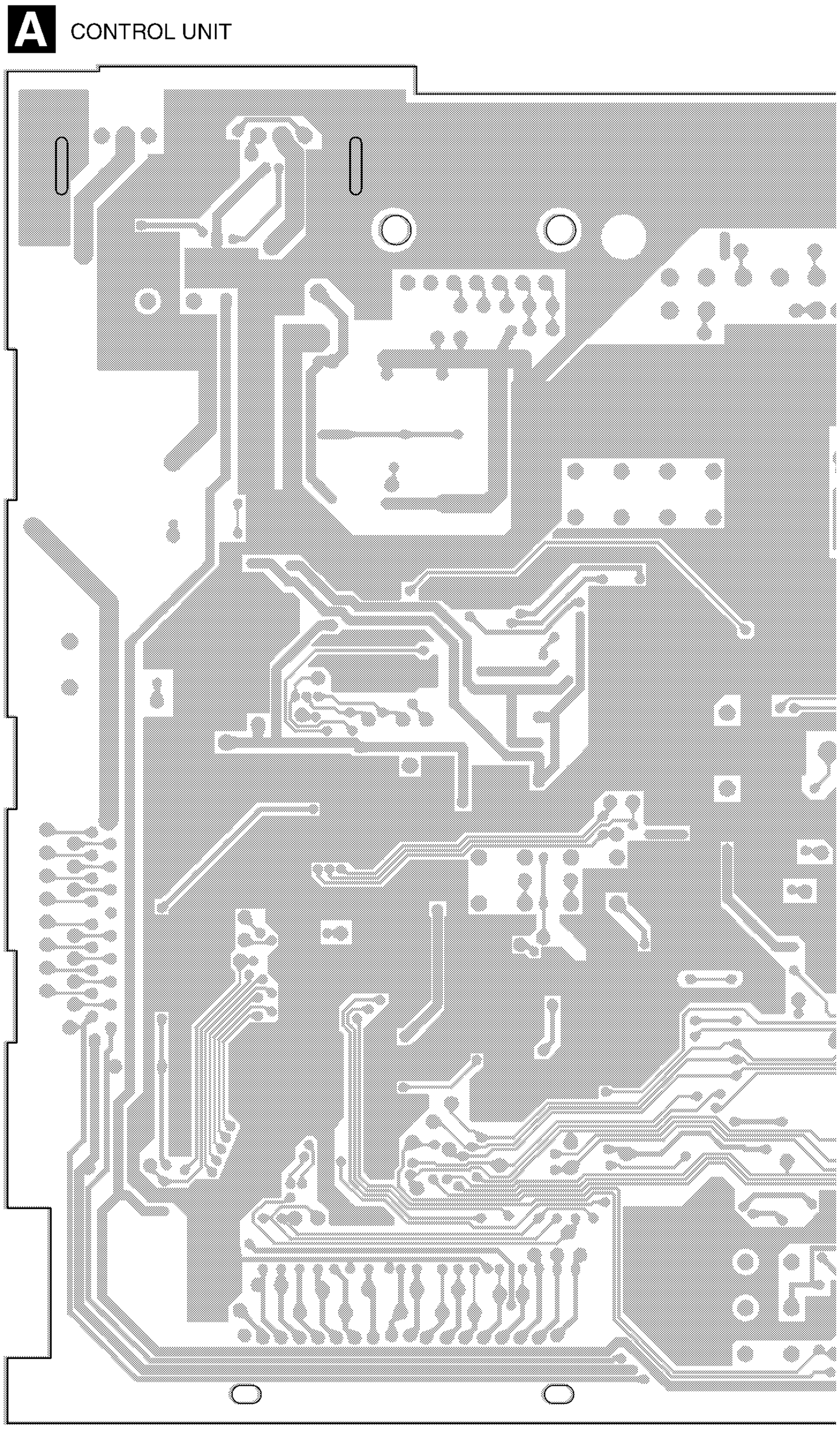


Fig. 8

A

A CONTROL UNIT



SIDE B

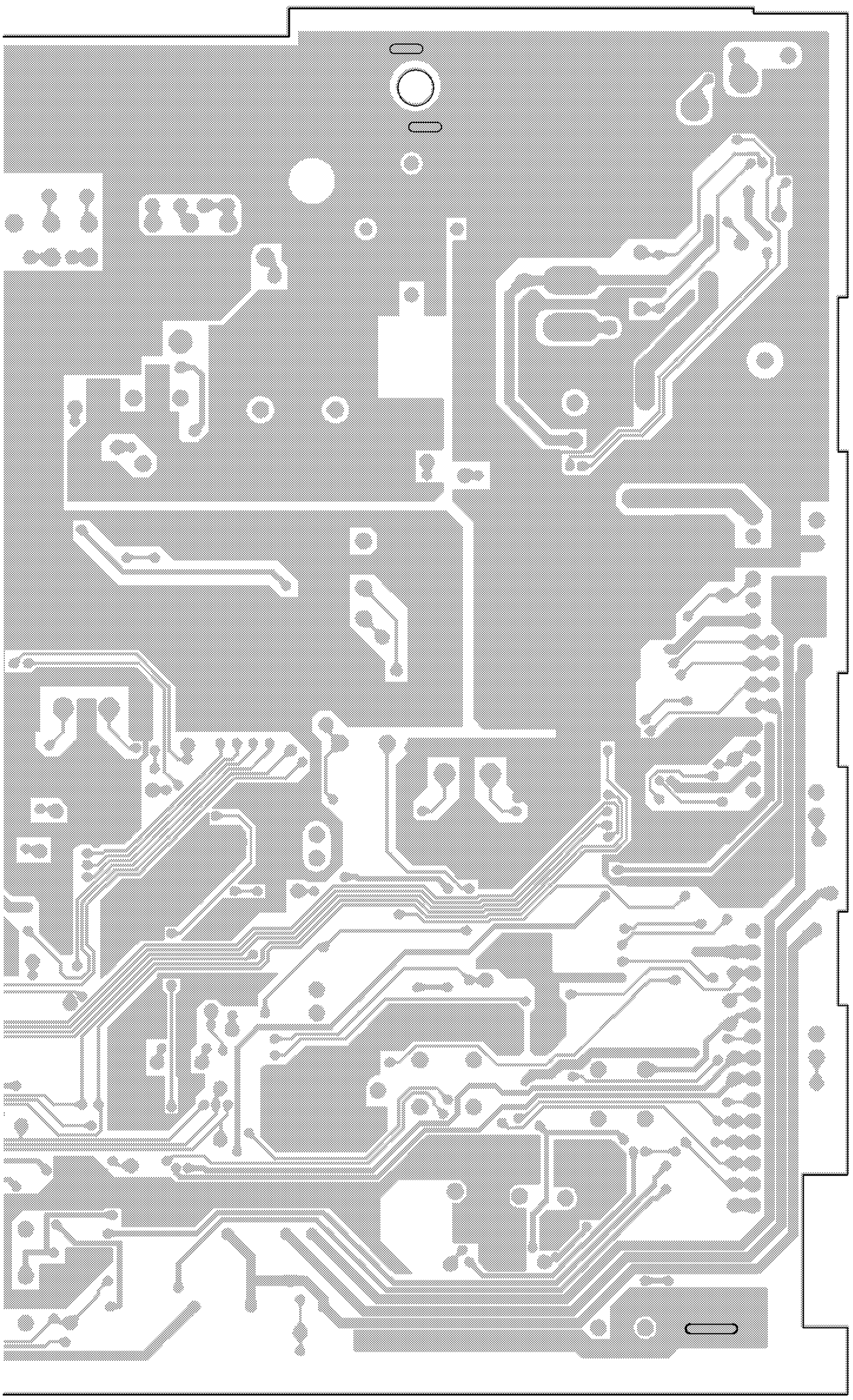


Fig. 9

4.2 TUNER UNIT

SIDE A

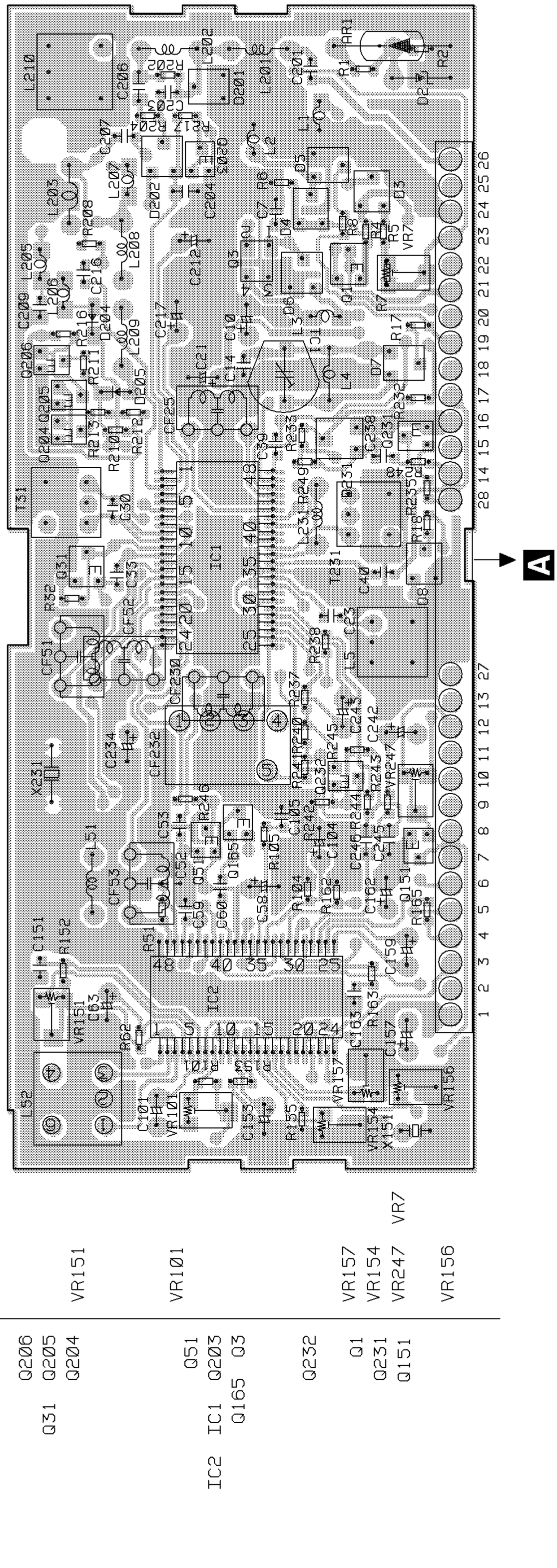


Fig. 10

SIDE B

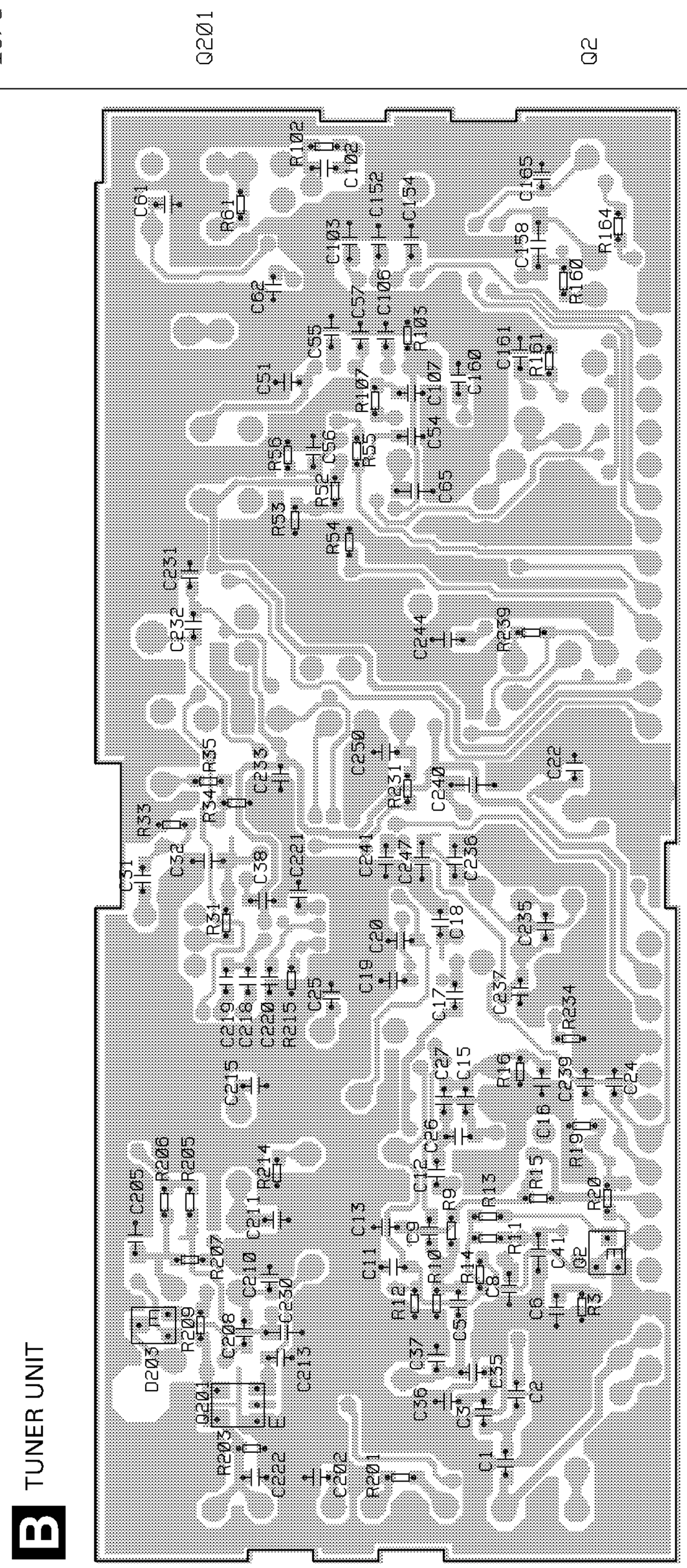


Fig. 11

4.3 KEYBOARD UNIT

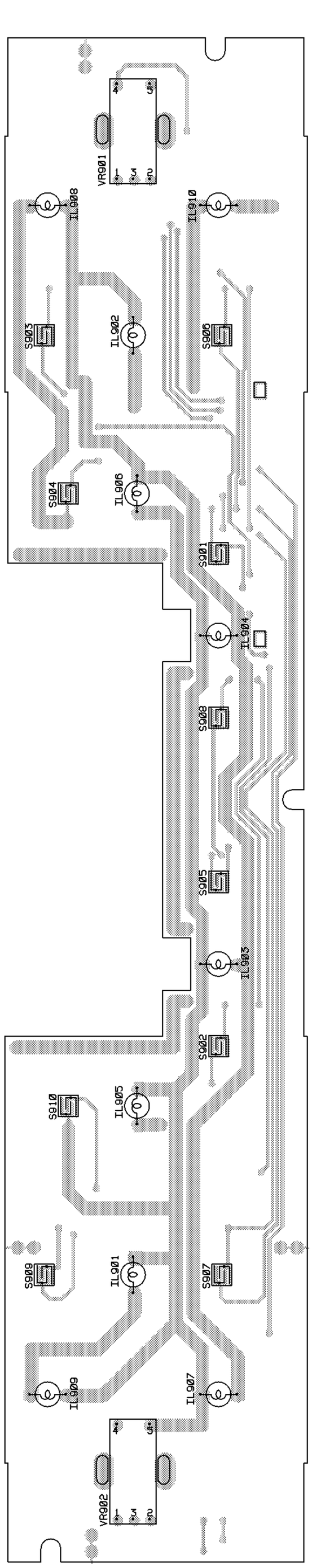


Fig. 12

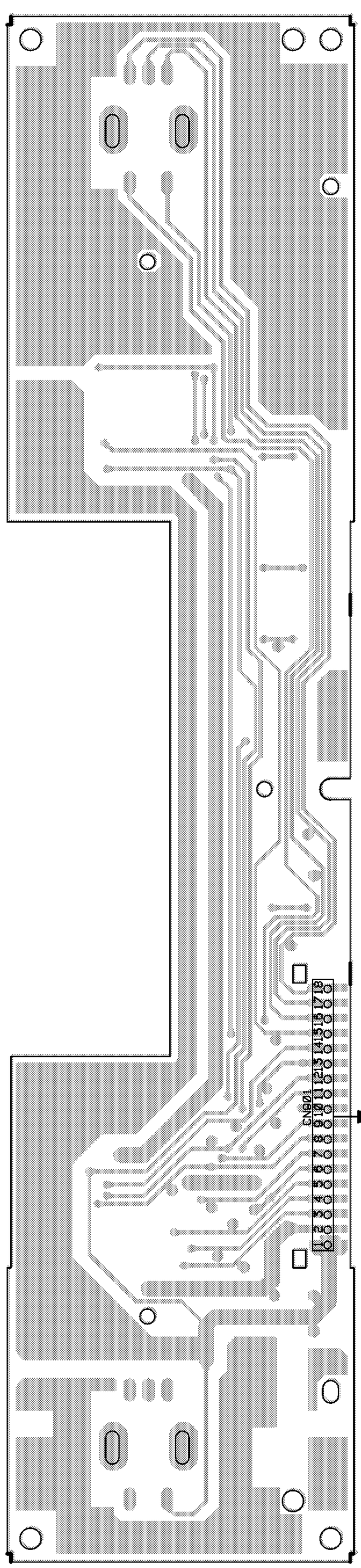


Fig. 13

4.4 CASSETTE MECHANISM MODULE

D DECK UNIT

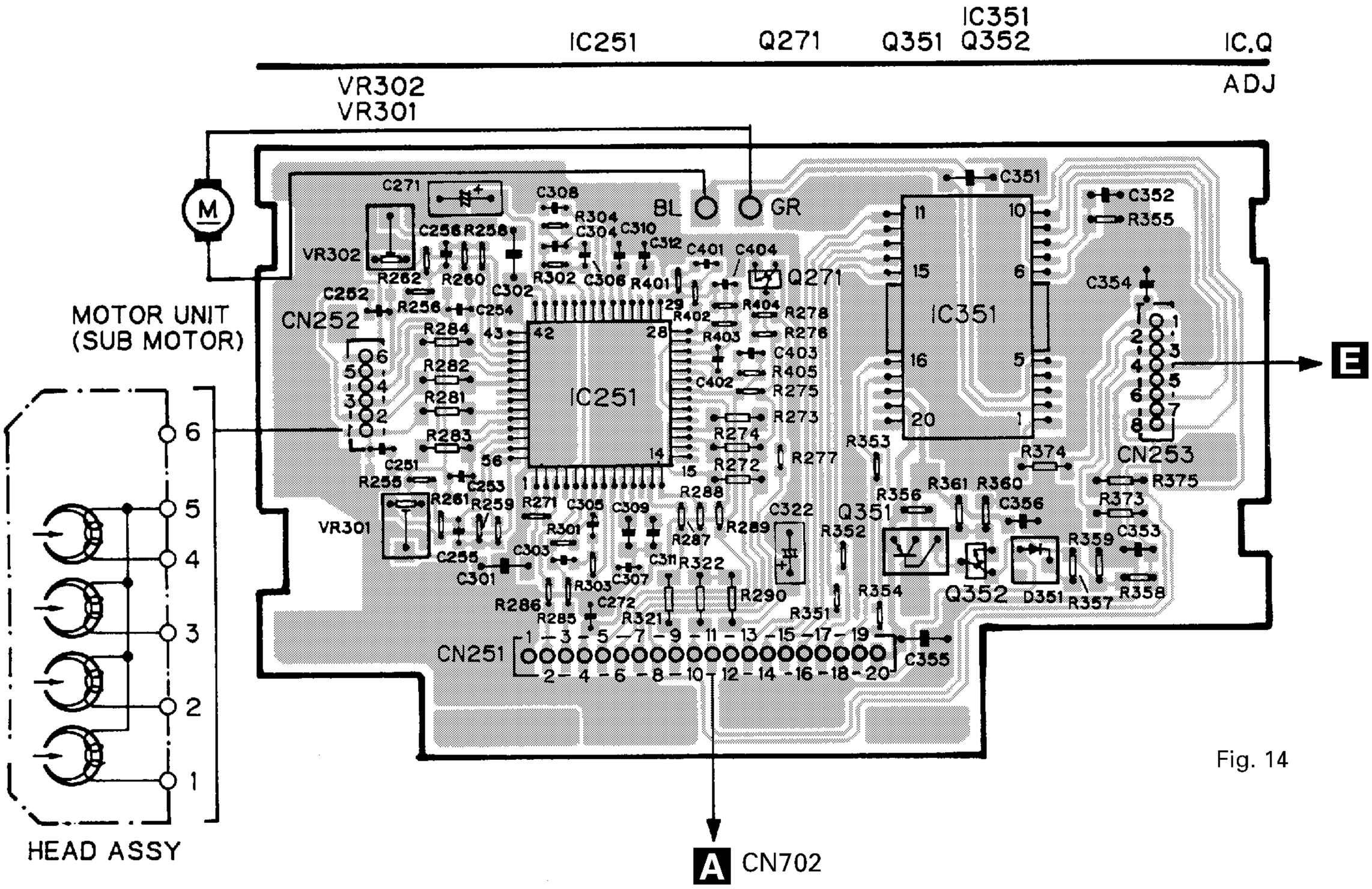


Fig. 14

E PCB UNIT **SIDE A**

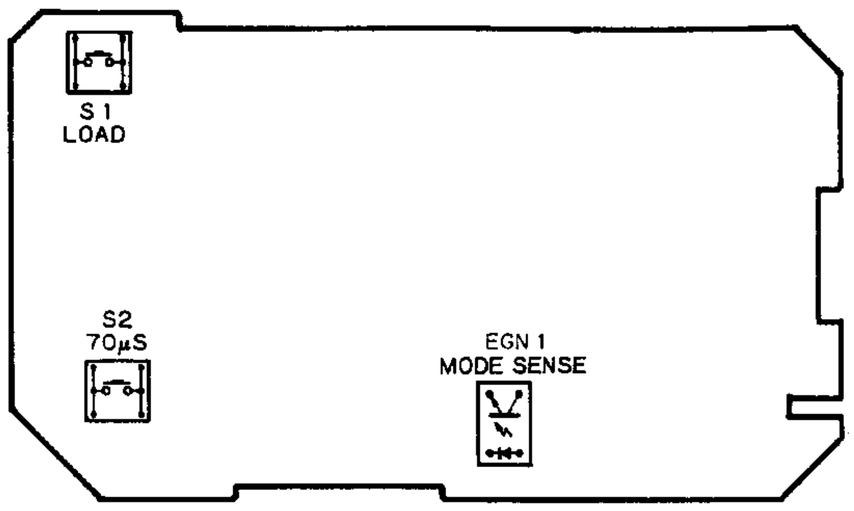


Fig. 15

E PCB UNIT **SIDE B**

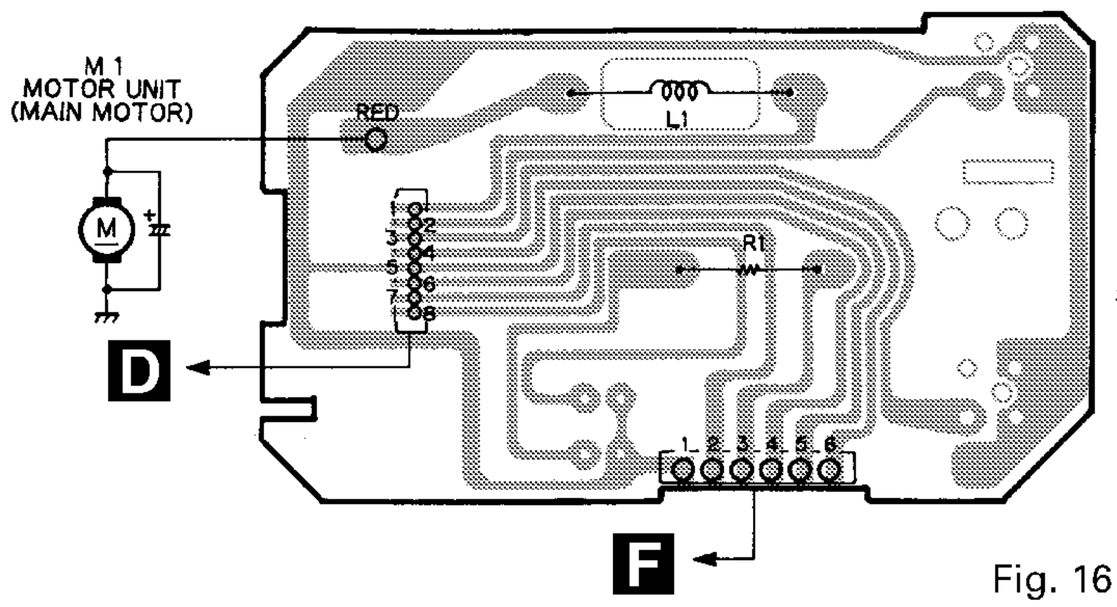


Fig. 16

F REEL PCB

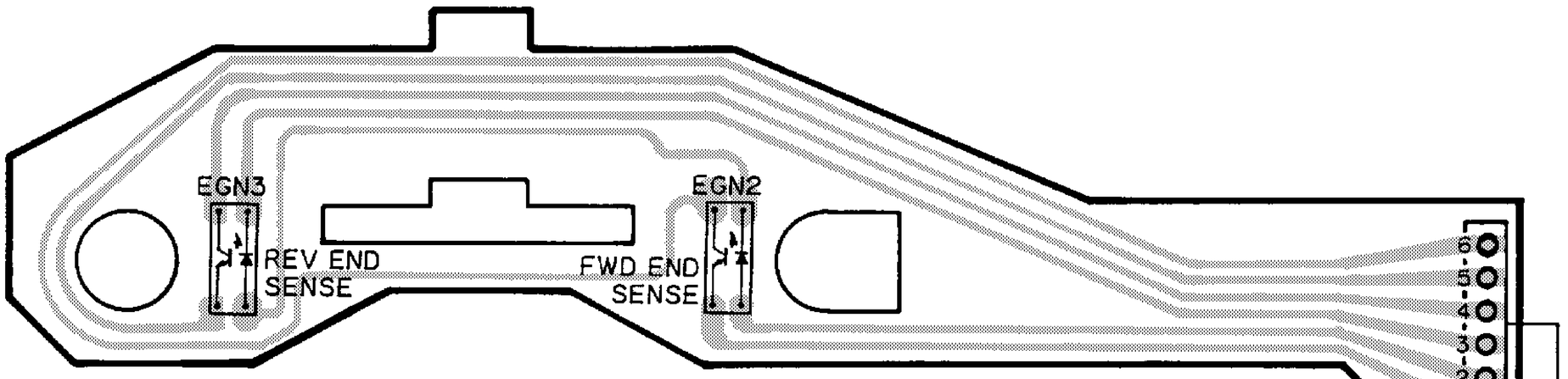


Fig. 17

5. ELECTRICAL PARTS LIST

NOTE:

- Parts whose parts numbers are omitted are subject to being not supplied.
- The part numbers shown below indicate chip components.

Chip Resistor

RS1/○S○○○J,RS1/○○S○○○J

Chip Capacitor (except for CQS.....)

CKS....., CCS....., CSZS.....

A Unit Number : CWM5024(KEX-M9276ZT/EW)
: CWM5085(KEX-M9376ZT/EW)
Unit Name : Control Unit

MISCELLANEOUS

=====Circuit Symbol and No.		===Part Name	Part No.
IC	401	IC	NJM2068MD
IC	402	IC	NJM2068MD
IC	403	IC	TC4066BF
IC	502	IC	HA12181FP
IC	503	IC	PM2007A
IC	601	IC	PMW001B
IC	602	IC	PD6217A
IC	603	IC	NJM2903M
IC	701	IC	PD4791D
IC	702	IC	S-80736AN-D0
IC	801	IC	CA0008AM
Q	401	Transistor	DTC114EK
Q	502	Transistor	IMX1
Q	503	Transistor	DTC114EK
Q	504	Transistor	IMX1
Q	505	Transistor	IMH2A
Q	506	Transistor	DTC114TK
Q	601	Transistor	DTC114TK
Q	602	Transistor	2SC2712
Q	603	Transistor	DTA144EK
Q	604	Transistor	IMX1
Q	605	Transistor	DTC343TK
Q	606	Transistor	DTC343TK
Q	801	Transistor	2SC2712
Q	802	Transistor	2SC2712
Q	803	Transistor	2SC2712
Q	804	Transistor	IMD3A
Q	805	Transistor	2SC3651
Q	806	Transistor	DTA114TK
Q	807	Transistor	2SA1162
Q	808	Transistor	DTC114EK
Q	809	Transistor	IMD3A
Q	810	Transistor	2SB1132
Q	811	Transistor	IMD3A
Q	812	Transistor	2SB1132
Q	813	Transistor	2SB1185
Q	814	Transistor	2SA1162
Q	815	Transistor	IMX1
Q	816	Transistor	DTC144EK
Q	817	Transistor	2SA1255
Q	818	Transistor	DTC144EK
Q	819	Transistor	2SA1255
Q	820	Transistor	DTC144EK
Q	821	Transistor	2SA1255
Q	822	Transistor	DTA114EK
Q	823	Transistor	2SC3295
Q	824	Transistor	2SB1185
Q	825	Transistor	DTC114EK
Q	826	Transistor	DTC114EK
Q	827	Transistor	2SB1132

=====Circuit Symbol and No.		===Part Name	Part No.
D	401	Diode	UDZ10(B)
D	402	Diode	UDZ10(B)
D	403	Diode	UDZ10(B)
D	404	Diode	UDZ10(B)
D	502	Chip Diode	MA151WK
D	601	Diode	MA8047(H)
D	602	Diode	1SS355
D	701	Diode	1SS355
D	702	Diode	1SS355
D	703	Diode	1SS355
D	801	Diode	UDZ20(B)
D	802	Diode	UDZ20(B)
D	803	Diode	UDZ7R5(B)
D	804	Diode	UDZ7R5(B)
D	805	Diode	UDZ7R5(B)
D	806	Diode	UDZ5R6(B)
D	807	Diode	UDZ20(B)
D	808	Diode	GP30DL-6372
D	809	Diode	MA8047(L)
D	810	Diode	MA8082(L)
D	811	Diode	UDZ10(B)
D	812	Diode	1SS355
D	813	Diode	1SS355
D	814	Diode	1SS355
D	815	Diode	1SS355
L	508	Inductor	LCTA4R7J3225
L	509	Inductor	LCTA4R7J3225
L	510	Inductor	LCTA4R7J3225
L	511	Inductor	LCTB4R7K3216
L	513	Inductor	LCTB4R7K3216
L	601	Inductor	LCTB4R7K3216
L	602	Inductor	LCTA220K3225
L	701	Inductor	LCTB4R7K3216
L	702	Inductor	LCTB4R7K3216
L	703	Inductor	LCTB4R7K3216
L	801	Coil	CTH1092
X	501	Crystal Resonator 7.200MHz	CSS1379
X	601	Crystal Resonator 4.332MHz	CSS1056
X	701	6.290MHz	CSS1305
VR	501	Semi-fixed 10kΩ(B)	CCP1181
VR	601	Semi-fixed 2.2kΩ(B)	CCP1177
EF	801	EMI Filter	CCG1006
AR	502		DSP-201M
		Tuner Unit	CWE1456

RESISTORS

R	401		RS1/10S752J
R	402		RS1/10S752J
R	403		RS1/10S102J
R	404		RS1/10S102J
R	405		RS1/10S562J

=====Circuit Symbol and No.===Part Name			Part No.	=====Circuit Symbol and No.===Part Name			Part No.
R	406		RS1/10S562J	R	601		RS1/4S151J
R	407		RS1/10S103J	R	602		RS1/10S222J
R	408		RS1/10S103J	R	603		RS1/10S333J
R	409		RS1/10S472J	R	604		RS1/10S0R0J
R	410		RS1/10S472J	R	605		RS1/10S222J
R	411		RS1/10S472J	R	606		RS1/10S102J
R	412		RS1/10S472J	R	607		RS1/10S102J
R	413		RS1/10S270J	R	608		RS1/10S102J
R	414		RS1/10S270J	R	609		RS1/10S102J
R	415		RS1/10S270J	R	610		RS1/10S222J
R	416		RS1/10S270J	R	611		RS1/10S222J
R	417		RS1/8S270J	R	612		RS1/10S222J
R	418		RS1/8S270J	R	613		RS1/10S222J
R	419		RS1/8S270J	R	614		RS1/10S684J
R	420		RS1/8S270J	R	615		RS1/10S223J
R	425		RS1/10S223J	R	616		RS1/10S473J
R	427		RS1/10S470J	R	617		RS1/10S473J
R	428		RS1/10S470J	R	618		RS1/10S102J
R	429		RS1/10S470J	R	619		RS1/10S222J
R	430		RS1/10S470J	R	620		RS1/10S223J
R	503		RS1/10S0R0J	R	621		RS1/10S681J
R	517		RS1/10S222J	R	622		RS1/10S681J
R	518		RS1/10S103J	R	623		RS1/10S681J
R	519		RS1/10S104J	R	624		RS1/10S105J
R	520		RS1/10S272J	R	625		RS1/10S681J
R	521		RS1/10S272J	R	626		RS1/10S102J
R	522		RS1/10S222J	R	627		RS1/10S102J
R	523		RS1/10S102J	R	628		RS1/10S102J
R	524		RS1/10S223J	R	629		RS1/10S102J
R	525		RS1/10S472J	R	630		RS1/10S102J
R	526		RS1/10S682J	R	631		RS1/10S681J
R	527		RS1/10S222J	R	632		RS1/10S681J
R	528		RS1/10S682J	R	633		RS1/10S681J
R	529		RS1/10S472J	R	634		RS1/10S681J
R	530		RS1/10S561J	R	635		RS1/10S473J
R	531		RS1/10S472J	R	636		RS1/10S681J
R	532		RS1/10S152J	R	637		RS1/10S681J
R	533		RS1/10S222J	R	638		RS1/10S473J
R	534		RS1/10S392J	R	639		RS1/10S473J
R	535		RS1/10S682J	R	640		RS1/10S473J
R	536		RS1/10S102J	R	641		RS1/10S473J
R	537		RS1/10S392J	R	642		RS1/10S224J
R	538		RS1/10S272J	R	643		RS1/10S473J
R	539		RS1/10S102J	R	644		RS1/10S184J
R	540		RS1/10S102J	R	645		RS1/10S224J
R	541		RS1/10S102J	R	646		RS1/10S224J
R	542		RS1/10S102J	R	647		RS1/10S102J
R	543		RS1/10S222J	R	648		RS1/10S102J
R	544		RS1/10S103J	R	649		RS1/10S472J
R	545		RS1/10S104J	R	651		RS1/10S223J
R	546		RS1/10S473J	R	652		RS1/10S223J
R	547		RS1/10S333J	R	705		RS1/10S222J
R	548		RS1/10S184J	R	706		RS1/10S222J
R	549		RS1/10S472J	R	707		RS1/10S222J
R	550		RS1/10S104J	R	708		RS1/10S102J
R	551		RS1/10S123J	R	709		RS1/10S102J
R	552		RS1/10S153J	R	710		RS1/10S102J
R	553		RS1/10S153J	R	711		RS1/10S102J
R	554		RS1/10S222J	R	712		RS1/10S102J
R	555		RS1/10S222J	R	713		RS1/10S102J
R	556		RS1/10S102J	R	714		RS1/10S102J
R	557		RS1/10S102J	R	715		RS1/10S102J
R	560		RS1/10S105J	R	716		RS1/10S102J
R	561		RS1/10S822J	R	717		RS1/10S102J
R	563		RS1/10S103J	R	718		RS1/10S102J

=====Circuit Symbol and No.		===Part Name	Part No.
R	719		RS1/10S473J
R	720		RS1/10S473J
R	721		RS1/10S473J
R	722		RS1/10S473J
R	723		RS1/10S473J
R	724		RS1/10S473J
R	725		RS1/10S102J
R	726		RS1/10S102J
R	727		RS1/10S681J
R	728		RS1/10S473J
R	729		RS1/10S222J
R	730		RS1/10S222J
R	731		RS1/10S222J
R	732		RS1/10S222J
R	736		RS1/10S222J
R	737		RS1/10S473J
R	738		RS1/10S102J
R	739		RS1/10S102J
R	740	(KEX-M9276ZT/EW)	RS1/10S222J
R	740	(KEX-M9376ZT/EW)	RS1/10S392J
R	741	(KEX-M9276ZT/EW)	RS1/10S822J
R	741	(KEX-M9376ZT/EW)	RS1/10S562J
R	742		RS1/10S222J
R	744		RS1/10S473J
R	745		RS1/10S393J
R	746		RS1/10S223J
R	747		RS1/10S223J
R	748		RS1/10S103J
R	749		RS1/10S472J
R	750		RS1/10S472J
R	751		RS1/10S222J
R	752		RS1/10S222J
R	753		RS1/10S473J
R	754		RS1/10S223J
R	755		RS1/10S223J
R	756		RS1/10S223J
R	758		RS1/10S223J
R	759		RS1/10S223J
R	760	(KEX-M9276ZT/EW)	RS1/10S0R0J
R	761	(KEX-M9276ZT/EW)	RS1/10S222J
R	762	(KEX-M9276ZT/EW)	RS1/10S0R0J
R	763	(KEX-M9276ZT/EW)	RS1/10S222J
R	764	(KEX-M9276ZT/EW)	RS1/10S222J
R	765	(KEX-M9276ZT/EW)	RS1/10S0R0J
R	770	(KEX-M9376ZT/EW)	RS1/10S222J
R	771	(KEX-M9376ZT/EW)	RS1/10S0R0J
R	772	(KEX-M9376ZT/EW)	RS1/10S222J
R	773	(KEX-M9376ZT/EW)	RS1/10S0R0J
R	774	(KEX-M9376ZT/EW)	RS1/10S0R0J
R	775	(KEX-M9376ZT/EW)	RS1/10S222J
R	776		RS1/10S222J
R	777		RS1/10S222J
R	778		RS1/10S223J
R	779		RS1/10S223J
R	780		RS1/10S223J
R	781		RS1/10S223J
R	782		RS1/10S472J
R	783		RS1/10S472J
R	801		RS1/10S473J
R	802		RS1/10S473J
R	803		RS1/10S102J
R	804		RS1/10S102J
R	805		RS1/10S103J
R	806		RS1/8S101J
R	807		RS1/8S101J

=====Circuit Symbol and No.		===Part Name	Part No.
R	808		RS1/10S104J
R	809		RS1/10S104J
R	810		RS1/10S104J
R	811		RS1/10S223J
R	812		RS1/10S223J
R	813		RS1/10S103J
R	814		RS1/10S223J
R	815		RS1/10S223J
R	816		RS1/10S103J
R	817		RS1/10S472J
R	818		RS1/10S103J
R	819		RS1/8S472J
R	820		RS1/8S472J
R	821		RS1/4S221J
R	822		RS1/10S471J
R	823		RS1/10S474J
R	824		RS1/8S4R7J
R	825		RS1/10S153J
R	826		RS1/8S221J
R	827		RS1/10S152J
R	828		RS1/10S223J
R	829		RS1/10S223J
R	830		RS1/10S152J
R	831		RS1/10S222J
R	832		RS1/10S152J
R	833		RS1/10S471J
R	834		RS1/10S471J
R	835		RS1/4S1R0J
R	836		RS1/10S223J
R	837		RS1/10S103J
R	838		RS1/10S223J
R	839		RS1/10S472J
R	840		RS1/10S472J
R	841		RS1/4S221J
R	842		RS1/10S223J
R	843		RS1/10S472J
R	844		RS1/10S472J
R	845		RS1/4S221J
R	846		RS1/10S223J
R	847		RS1/10S472J
R	848		RS1/10S472J
R	849		RS1/4S221J
R	850		RS1/8S472J
R	851		RS1/10S103J
R	852		RS1/10S821J
R	853		RS1/10S472J
R	854		RS1/10S472J
R	855		RS1/10S472J
R	859		RS1/10S103J
R	860		RS1/10S681J
R	862		RS1/10S223J
R	863		RS1/10S471J
R	864		RS1/10S122J
R	865		RS1/4S680J

CAPACITORS

C	401	CEAL2R2M50
C	402	CEAL2R2M50
C	403	CEAL4R7M25
C	404	CEAL4R7M25
C	405	CCSQCH331J50
C	406	CCSQCH331J50
C	407	CCSQCH471J50
C	408	CCSQCH471J50
C	409	CEALNP4R7M16
C	410	CEALNP4R7M16

=====Circuit Symbol and No.		===Part Name	Part No.
C	411		CEALNP4R7M16
C	412		CEALNP4R7M16
C	413		CCSQCH101J50
C	414		CCSQCH101J50
C	415		CCSQCH101J50
C	416		CCSQCH101J50
C	417		CKSQYB474K16
C	419		CKSQYB682K50
C	420		CKSQYB682K50
C	421		CKSQYB682K50
C	422		CKSQYB682K50
C	506		CKSQYB103K50
C	518		CKSQYB103K50
C	519		CKSQYB183K50
C	520		CKSQYB183K50
C	521		CEJA100M16
C	522		CEJA100M16
C	523		CEJA100M16
C	524		CEALR22M50
C	525		CKSQYB334K16
C	526		CKSQYB102K50
C	527		CKSQYB472K50
C	528		CQMA333J50
C	529		CKSQYB682K50
C	530		CEAL3R3M50
C	531		CKSQYB333K50
C	532		CEALNP1R0M50
C	533		CQMA683J50
C	534		CQMA333J50
C	535		CQMA333J50
C	536		CKSQYB103K50
C	537		CKSQYB103K50
C	538		CKSQYB103K50
C	539		CKSQYB103K50
C	540		CKSQYB103K50
C	541		CKSQYB183K50
C	542		CEAL220M10
C	543		CKSYB223K50
C	545		CEAL220M10
C	546		CKSQYB103K50
C	547		CKSQYB103K50
C	548		CEAL100M16
C	549		CKSQYB103K50
C	550	4.7µF/10V	CCH1280
C	551		CKSQYB103K50
C	552		CKSQYB103K50
C	553		CKSQYB332K50
C	554	4.7µF/10V	CCH1280
C	555		CKSQYB103K50
C	556		CKSQYB103K50
C	557		CEALR47M50
C	560		CKSQYB473K50
C	561		CKSQYB103K50
C	562		CCSQCH150J50
C	563		CCSQCH150J50
C	564		CKSQYB152K50
C	565		CKSQYB123K50
C	566		CKSQYB123K50
C	567		CEAL4R7M25
C	568		CEAL4R7M25
C	569		CCSQCH101J50
C	570		CKSQYB682K50
C	571		CKSQYB102K50
C	572		CKSQYB102K50
C	601		CASAQ100M10

=====Circuit Symbol and No.		===Part Name	Part No.
C	602		CKSQYB222K50
C	603		CKSQYB104K50
C	604		CKSQYB472K50
C	605		CKSQYB104K50
C	606		CKSQYB472K50
C	607		CKSQYB103K50
C	608		CKSQYB104K50
C	609		CCSQCH102J50
C	610		CKSQYB103K50
C	611		CEALNP4R7M16
C	612		CKSQYB103K50
C	613		CKSQYB103K50
C	614		CKSQYB103K50
C	615		CEJA221M6R3
C	616		CCSQCH270J50
C	617		CCSQCH270J50
C	618		CKSQYB103K50
C	619		CKSQYB103K50
C	620		CKSQYB103K50
C	621		CEJA221M6R3
C	622		CKSQYB103K50
C	701		CKSQYB472K50
C	702		CKSQYB472K50
C	703		CKSQYB472K50
C	705		CKSQYB103K50
C	706		CKSQYB223K50
C	707		CEJA221M6R3
C	708		CKSQYB103K50
C	709		CKSQYB103K50
C	710		CKSQYB103K50
C	711		CKSQYB223K50
C	712		CKSQYB223K50
C	713		CKSQYB103K50
C	714		CKSQYB223K50
C	716		CCSQCH102J50
C	717		CKSQYB223K50
C	718		CKSQYB103K50
C	720		CKSQYB472K50
C	721		CKSQYB472K50
C	722		CKSQYB472K50
C	723		CKSQYB472K50
C	724		CKSQYB472K50
C	725		CKSQYB471K50
C	726		CKSQYB471K50
C	801		CKSQYB103K50
C	804		CCSQCH221J50
C	805		CCSQCH221J50
C	806		CKSQYB103K50
C	807		CEAL2R2M50
C	808	0.047µF/5.5V	CCL1040
C	809		CKSQYB223K50
C	810		CEJA221M6R3
C	811		CCSQCH101J50
C	812		CCSQCH471J50
C	813		CKSQYB223K50
C	814		CEJA470M25
C	815		CKSQYB223K50
C	816		CKSQYB223K50
C	817		CKSQYB223K50
C	818		CEAL101M10
C	819		CKSQYB223K50
C	820	100µF/10V	CCH1282
C	821		CKSQYB103K50
C	822		CKSQYB103K50
C	823		CKSQYB103K50

=====Circuit Symbol and No.		===Part Name	Part No.
C	824		CKSQYB103K50
C	825		CEAL2R2M50
C	826		CEAL2R2M50
C	827		CEAS101M10
C	828		CEJA470M25
C	829		CKSQYB223K50
C	830		CKSYB103K50
C	831		CKSYB103K50
C	832		CKSYB103K50

C Unit Number : CWM5023(KEX-M9276ZT/EW)
: CWM5025(KEX-M9376ZT/EW)
Unit Name : Keyboard Unit

MISCELLANEOUS

IL	901	Lamp 60mA 8V	CEL1395
IL	902	Lamp 60mA 8V	CEL1395
IL	903	Lamp 60mA 8V	CEL1343
IL	904	Lamp 60mA 8V	CEL1343
IL	905	Lamp 60mA 8V	CEL1343
IL	906	Lamp 60mA 8V	CEL1343
IL	907	Lamp 60mA 8V	CEL1343
IL	908	Lamp 60mA 8V	CEL1343
IL	909	Lamp 60mA 8V	CEL1343
IL	910	Lamp 60mA 8V	CEL1343
VR	901	(KEX-M9276ZT/EW)	CSD1027
VR	901	Volume 50kΩ(B)(KEX-M9376ZT/EW)	CCS1226
VR	902	Volume 50kΩ(B)(KEX-M9276ZT/EW)	CCS1226
VR	902	(KEX-M9376ZT/EW)	CSD1027

B Unit Number : CWE1456
Unit Name : Tuner Unit

MISCELLANEOUS

IC	1	IC	PA4026A
IC	2	IC	PA4024A
Q	1	Transistor	2SC2712
Q	3	FET	3SK263
Q	31	Transistor	2SC2712
Q	151	Transistor	DTC144EU
Q	165	Transistor	2SC4116
Q	201	Transistor	FC12
Q	203	Transistor	DTC124EU
D	3	Diode	1SV251
D	4	Diode	1SV250
D	5	Diode	KV1410-F1
D	6	Diode	MA157
D	7	Diode	KV1410-F1
D	8	Diode	KV1410-F1
D	201	Diode	MA157
D	202	Diode	1SV251
D	231	Diode	SVC253
L	1	Inductor	LCTBR12K2125
L	2	Coil	CTC1145
L	3	Inductor	LCTB4R7K2125
L	4	Coil	CTC1131
L	5	Coil	CTC1147
L	40	Inductor	LCTBR15K1608
L	51	Ferri-Inductor	LAU150K
L	52	Coil	CTC1136
L	201	Ferri-Inductor	LAU4R7K
L	202	Ferri-Inductor	LAU330K
L	203	Inductor	CTF1371
L	208	Inductor	LAU390K
L	209	Ferri-Inductor	LAU680K
L	210	Coil	CTB1102
L	231	Inductor	LAU3R3J
T	31	Coil	CTE1116
TC	1		CCL1038

=====Circuit Symbol and No.		===Part Name	Part No.
CF	25	Ceramic Filter	CTF1292
CF	51	Ceramic Filter	CTF1292
CF	52	Ceramic Filter	CTF1292
CF	53	Ceramic Filter	CTF1292
CF	230		CTF1262
CF	232	Ceramic Filter	CTF1348
X	151	Resonator 918.5Hz	CSS1365
X	231	Crystal Resonator 10.26MHz	CSS1111
VR	101	Semi-fixed 15kΩ(B)	CCP1230
VR	151	Semi-fixed 10kΩ(B)	CCP1229
VR	154	Semi-fixed 150kΩ(B)	CCP1236
VR	156	Semi-fixed 100kΩ(B)	CCP1234

RESISTORS

R	3		RS1/16S223J
R	4		RS1/16S101J
R	5		RS1/16S151J
R	6		RS1/16S101J
R	7		RS1/10S331J
R	8		RS1/16S332J
R	9		RS1/16S473J
R	10		RS1/16S223J
R	11		RS1/16S124J
R	12		RS1/16S474J
R	15		RS1/16S271J
R	16		RS1/16S104J
R	17		RS1/16S332J
R	18		RS1/16S332J
R	19		RS1/16S154J
R	27		RS1/16S0R0J
R	31		RS1/16S470J
R	32		RS1/16S912J
R	33		RS1/16S912J
R	34		RS1/16S331J
R	35		RS1/16S331J
R	39		RS1/16S0R0J
R	51		RS1/16S331J
R	55		RS1/16S102J
R	56		RS1/16S823J
R	61		RS1/16S392J
R	62		RS1/16S393J
R	103		RS1/16S333J
R	104		RS1/16S334J
R	105		RS1/16S683J
R	107		RS1/16S222J
R	152		RS1/16S393J
R	155		RS1/16S393J
R	157		RS1/10S203J
R	160		RS1/16S222J
R	161		RS1/16S563J
R	162		RS1/16S225J
R	163		RS1/16S222J
R	164		RS1/16S563J
R	165		RS1/16S102J
R	202		RS1/16S223J
R	203		RS1/16S225J
R	204		RS1/16S103J
R	205		RS1/16S471J
R	206		RS1/16S220J
R	207		RS1/16S101J
R	208		RS1/16S102J
R	209		RS1/16S0R0J
R	214		RS1/16S563J
R	215		RS1/16S473J
R	217		RS1/16S393J
R	220		RS1/10S0R0J
R	231		RS1/16S242J
R	232		RS1/16S473J
R	233		RS1/16S0R0J

Circuit Symbol and No.	Part Name	Part No.
R 234		RS1/16S0R0J
R 237		RS1/16S103J
R 238		RS1/16S104J
R 239		RS1/16S104J
R 240		RS1/16S472J
R 241		RS1/16S202J
R 243		RS1/16S123J
R 244		RS1/16S103J
R 245		RS1/16S0R0J
R 246		RS1/16S0R0J
R 247		RS1/10S153J
CAPACITORS		
C 1		CCSRCH220J50
C 2		CKSRYB222K50
C 3		CCSRCH6R0D50
C 5		CKSRYB222K50
C 6		CKSQYB473K16
C 7		CKSQYB473K16
C 8		CKSQYB104K16
C 9		CCSRCJ3R0C50
C 10		CEJA1R0M50
C 11		CCSRCH470J50
C 12		CCSRCH820J50
C 13		CKSRYB222K50
C 14		CCSRCH4R0D50
C 16		CCSRCH120J50
C 17		CKSRYB222K50
C 18		CKSRYB103K25
C 19		CKSRYB222K50
C 20		CKSRYB222K50
C 21		CEJA100M16
C 22		CCSRRH100D50
C 23		CCSRRH150J50
C 24		CCSRCH471J50
C 30		CCSRRH201J50
C 31		CKSRYB103K25
C 32		CKSQYB473K16
C 33		CCSRCK2R0C50
C 35		CCSRCH220J50
C 36		CCSRCH100D50
C 41		CKSQYB104K16
C 51		CKSRYB223K25
C 52		CKSRYB103K25
C 54		CCSRCH470J50
C 55		CKSQYB223K25
C 56		CKSQYB104K16
C 57		CKSRYB472K50
C 58		CEJA330M10
C 59		CKSRYB103K25
C 61		CCSRCH270J50
C 62		CKSRYB103K25
C 63		CEJAR15M50
C 65		CKSQYB104K16
C 101		CEJANP100M10
C 102		CKSRYB182K50
C 103		CKSQYB682K50
C 104		CEJA2R2M50
C 105		CKSRYB103K25
C 106		CCSRCH151J50
C 107		CKSRYB103K25
C 151		CKSRYB392K50
C 152		CKSQYB104K16
C 153		CEJA3R3M50
C 154		CKSQYB104K16
C 157		CEJA3R3M50
C 158		CKSYB474K16
C 159		CEJA220M6R3
C 160		CKSQYB104K16
C 161		CKSQYB104K16
C 162		CEJA3R3M50
C 163		CKSRYB102K50
C 165		CCSRCH100D50
C 201		CKSRYB103K25
C 202		CCSRCH100D50
C 203		CKSRYB332K50
C 204		CKSQYB473K16
C 205		CKSQYB473K16
C 206		CKSQYB103K25
C 207		CCSRCH120J50
C 211		CCSRCH560J50
C 212		CEJA101M10
C 213		CKSRYB103K25
C 215		CCSRCH680J50
C 216		CCSRCH101J50
C 217		CEJAR47M50
C 219		CKSRYB223K25
C 220		CKSRYB103K25
C 221		CKSRYB103K25
C 230		CKSQYB104K16
C 231		CCSRCH330J50
C 232		CCSRCH150J50
C 233		CKSRYB103K25
C 234		CEJA330M10
C 235		CKSRYB332K50
C 236		CKSQYB473K16
C 237		CCSRTH180J50
C 239		CKSRYB103K25
C 240		CKSYB104K16
C 241		CKSQYB104K16
C 242		CEJAR47M50
C 243		CEJAR33M50
C 244		CKSQYB473K16
C 245		CKSQYB103K25
C 247		CKSQYB473K16
C 250		CCSRCJ3R0C50

D Unit Number : EWM1007
Unit Name : Deck unit

MISCELLANEOUS

IC	251	IC	HA12163
IC	351	IC	PA2020A
Q	271	Transistor	2SC4116
Q	351	Transistor	2SB1260
Q	352	Transistor	2SC4102
D	351	Diode	MA141K
VR	301	Semi-fixed 33kΩ(B)	CCP1130
VR	302	Semi-fixed 33kΩ(B)	CCP1130

RESISTORS

R	255	RS1/16S181J
R	256	RS1/16S181J
R	257	RS1/16S183J
R	258	RS1/16S183J
R	259	RS1/16S133J
R	260	RS1/16S133J
R	261	RS1/16S274J
R	262	RS1/16S274J
R	271	RS1/16S183J
R	272	RS1/8S223J
R	273	RS1/8S223J
R	274	RS1/8S103J
R	275	RS1/16S473J
R	276	RS1/16S104J
R	277	RS1/16S224J

=====Circuit Symbol and No.	===	Part Name	Part No.
R	278		RS1/16S104J
R	281		RS1/8S0R0J
R	282		RS1/8S0R0J
R	283		RS1/8S0R0J
R	284		RS1/8S0R0J
R	285		RS1/16S0R0J
R	286		RS1/16S0R0J
R	288		RS1/16S0R0J
R	289		RS1/16S0R0J
R	322		RS1/8S223J
R	351		RS1/16S102J
R	352		RS1/16S102J
R	353		RS1/16S102J
R	354		RS1/16S102J
R	355		RS1/10S274J
R	356		RS1/10S202J
R	357		RS1/10S472J
R	358		RS1/10S103J
R	359		RS1/10S103J
R	360		RS1/10S102J
R	361		RS1/10S622J
R	373		RS1/8S0R0J
R	374		RS1/8S0R0J
R	375		RS1/8S0R0J
R	401		RS1/16S273J
R	402		RS1/16S223J
R	403		RS1/16S274J
R	404		RS1/16S823J
R	405		RS1/16S274J

CAPACITORS

C	251		CKSRYB391K50
C	252		CKSRYB391K50
C	253		CKSRYB391K50
C	254		CKSRYB391K50
C	255		CKSRYB103K25
C	256		CKSRYB103K25
C	271		CEV1R0M50
C	272		CKSQYB104K16
C	301		CKSYB474K16
C	302		CKSYB474K16
C	309		CKSQYB104K16
C	310		CKSQYB104K16
C	351		CKSYB224K25
C	352		CKSQYB392K50
C	353		CKSQYB103K50
C	354		CKSQYB103K50
C	355		CKSYB104K50
C	356		CKSQYB103K50
C	401		CKSRYB182K50
C	402		CKSRYB822K50
C	403		CKSRYB333K16
C	404		CKSRYB471K50

E Unit Number :
Unit Name : PCB Unit

L	1	Inductor	ETH0001
S	1	Switch(Load)	ESG1004
S	2	Switch(70 μS)	ESG1004
EGN	1	Photo-Interruptor	EGN1005
R	1		RD1/4HM181J

F Unit Number :
Unit Name : Reel PCB

EGN	2	Photo-Reflector	EGN1004
EGN	3	Photo-Reflector	EGN1004

Miscellaneous Parts List

M	1	Motor Unit(Main)	EXA1497
M	2	Motor Unit(Sub)	EXA1485
HD	1	Head Assy	EXA1481
C	1		CEA4R7M35LS2

6. ADJUSTMENT

● Audio System Diagram

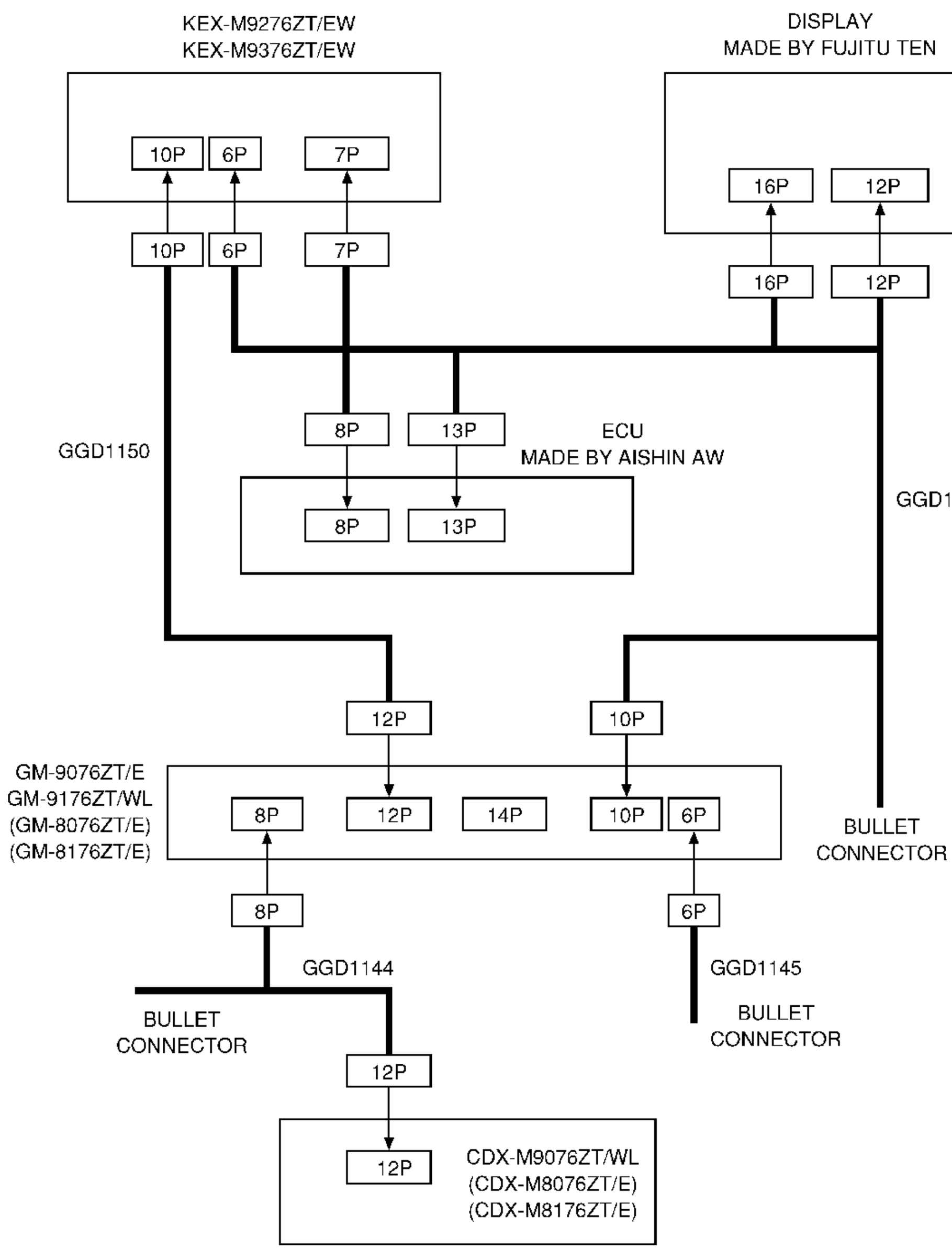


Fig. 18

6.1 TUNER/AUDIO ADJUSTMENT

● **Connection Diagram**

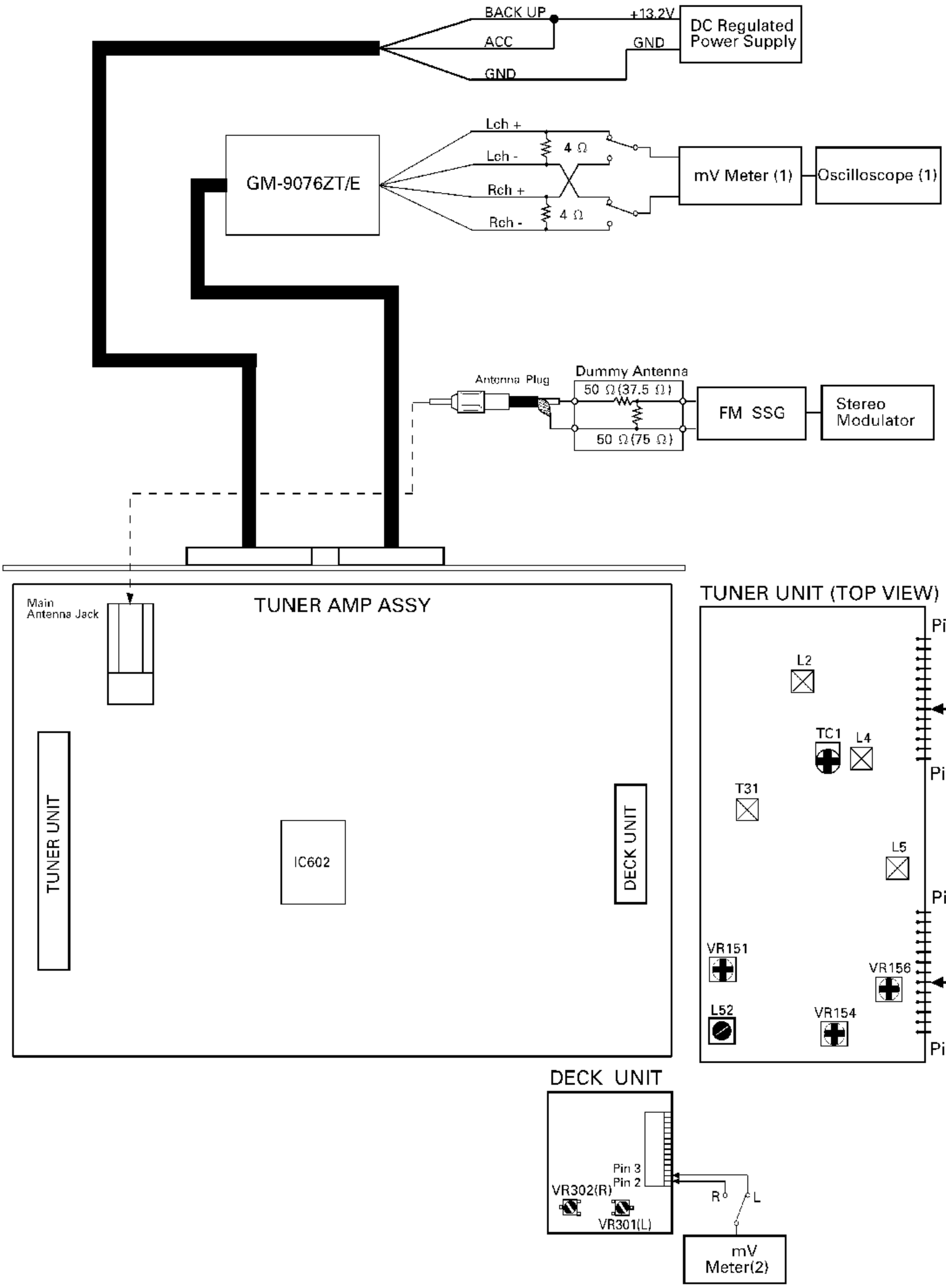


Fig. 19

FM ADJUSTMENT

Modulation M:MONO MOD., 400Hz 30%(22.5kHz Dev.) or 400Hz 100%(75kHz Dev.)
S:STEREO MOD., 1kHz, L or R=30%(20.25kHz+7.5kHz Dev.)

NOTE:Before proceeding to further adjustments after switching power ON, let the tuner run for ten minutes to allow the circuits to stabilize.

	No.	FM SSG		Displayed	Adjustment	Adjustment Method
		Frequency(MHz)	Level(dBf)	Frequency(MHz)	Point	(Switch Position)
TUN Volt	1	•••••	•••••	108.0	L5	DC V Meter(1) : 6V
Center Meter	1	98.1 M	5-15	98.1	L52	Center Meter : 0
IFT	1	98.1 M	5-15	98.1	T31	mV Meter(1) : Maximum
ANT Coil	1	87.5 M	5-15	87.5	L2	mV Meter(1) : Maximum
RF Coil	1	87.5 M	5-15	87.5	L4	mV Meter(1) : Maximum
RF Trimmer	1	107.9 M	60-80	107.9	TC1	mV Meter(1) : Maximum
ARC Separation	1	82.0 S	40	82.0	VR154	mV Meter(1) : Separation 5dB
Inter station	1	98.1 M	65	98.1	—	mV Meter : A dB
Noise	2	98.1 M	—∞	98.1	VR151	mV Meter : A—20 dB
Search	1	98.1 M	27	98.1	VR156	DC V Meter(2) : more than 3.5V
Sensitivity	2	98.1 M	26	98.1	VR156	DC V Meter(2) : 0V
	3	Repeat steps 1 and 2 until the adjustment standards are satisfied.				

DOLBY B NR ADJUSTMENT

No.	Test Tape	Adjustment Point	Adjustment Method (Switch Position)
1	NCT-150 (400Hz,200nwb/m)	VR301(Lch),VR302(Rch)	mV Meter(2) : –8.24dBs±1.0dB (DOLBY NR Switch : OFF)

JIGS

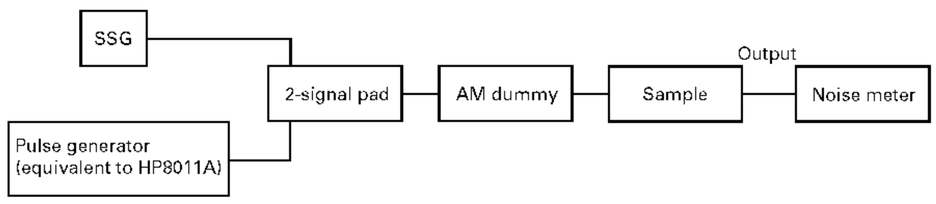
Product	Extension cable/harness	Necessary products for repair
KEX-M9276ZT/EW KEX-M9376ZT/EW	GGD1145 GGD1144 GGD1150 GGD1151	GM-9076ZT/E GM-9176ZT/E

● ADJUSTMENT OF AM NOISE CANCELER

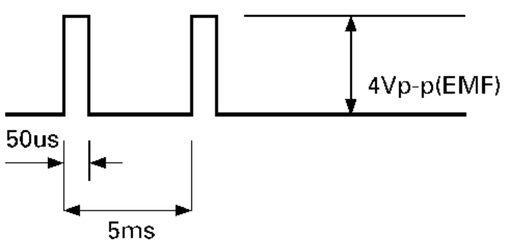
1. The system does not operate with H/U alone or combination with a Pioneer product (H/U, amplifier, or CD-M). To operate the system, a navigator ECU (Aishin AW or Denso) is required. Use a display from Fujitsu. For service, a software to allow the system to operate with H/U is included in μ -com software. To activate the program, apply 5V to pin 79 of SYS μ -com (IC 701), then restart. Short-circuiting the probe lands of CN751 and CN752 resets the system. For more details,see "6.2 SERVICE MODE."

① Adjustment of AM noise canceler

Connection:



Setting of the pulse generator (setting of superimposed pulse)



Pulse width :50usec

Pulse intervals :5msec

Pulse voltage :4Vp-p

Adjustment:

1. Setting of SSG

   Receiving frequency : 999 kHz (except types A and D) 1000 kHz (except types A and D)

   Percentage modulation : 30%

   Modulation frequency : 400 Hz

   Antenna input : 74 dBuV (EMF)

2. Set the system as shown in 1., then tune to a radio station.
3. Superimpose the pulse over signal to set modulation of SSG to OFF.
4. Use a noise meter to monitor output. Adjust VR501 to minimize the noise level.

② S meter adjustment (RDS)

Connection:

[A] Connect a voltmeter to the test point. Input signal of 30 dBu at RDS signal (4). Adjust VR601 to achieve the voltage value shown below.

Adjustment standard : 1.75 V +0.05 V
-0.35 V

6.2 SERVICE MODE

1. Entering the mode
   Input "H" to the SMODE terminal when the microcomputer resets.
   (Set the RESET terminal to "L," while inputting "H" to the SMODE terminal.)

2. Terminating the mode
   Set ACC (accessories) to OFF.

3. Valid keys in the mode
   Keys valid for all sound sources : EJECT, UKW, LW/MW, TAPE, POWER
   TAPE : PROG, APS+/—
   TUNER : UP/DOWN, SCAN UP/DOWN, PRESET SCAN (Press and hold down the [SCAN] key.)
   (The[TA] key is invalid.)

   In Overseas Service mode, only the keys listed above are valid. The analog switch is switched to output audio from an internal source.

Note: If a navigator or display is connected to the system in this state, the connected equipment does not operate normally, even though it appears as if operating. Be sure to set ACC to OFF to terminate Overseas Service mode, then connect the equipment.

6.3 MOTOR ANTENNA CONTROL

(1) Outline
This section specifies the output logic and timing of control signal of the motor antenna (expandable type or 3-stage-variable type).

(2) Specifications
① Functions of control terminal
ANTB : If this terminal is ON, power will be supplied to the following terminals.
ANT0,1 : Antenna length is set in 2 bits (3-stage-variable type only).

② Logic

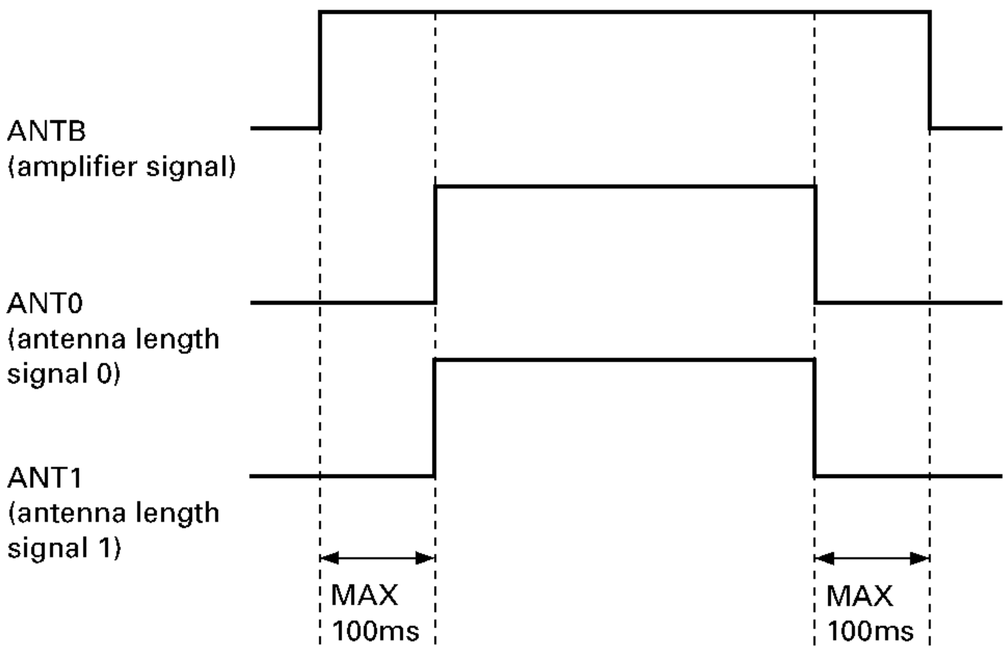
Antenna status

	FM Low 87.5~96MHz SCAN of FM Low start	FM Hi 96.1~108MHz SCAN of FM Hi start	AM(MW) LW SW	OFF TAPE CD	TEST MODE DSS(AM&CD) Press two buttons to set ACC to ON
ANT(+B)	1	1	1	0(※)	1
ANT A	1	0	1	0(※)	0
ANT B	0	0	1	0(※)	1
ANT length	Mid	Low	Hi	Off	Low

※ The EW model conforms to FM Test mode and CD operation.
1:13.2 V output 0:0V

1. The logic shown in the table is for a motor antenna installed on the vehicle harness.
2. See "Toyota Standard Specifications" for entering and operating Service mode.

③ Timing



1. The time required for changes in each terminal shall be within 100 ms from the first terminal changed.
2. The timing in the figure above is based on measurement made on the vehicle harness.
3. The timing in the figure above is also applied to controlling the expandable-type motor antennas (without ANT0 and 1 terminals).

④ Antenna length according to receiving frequency

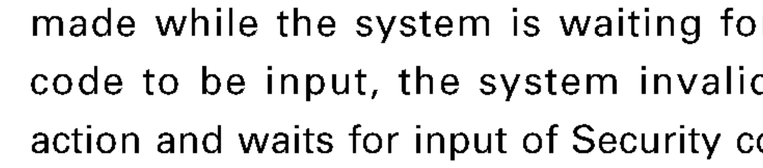
Band	Frequency range	Antenna length
AM	–	Long
FM	87.9 – 95.9 (MHz)	Medium
	96.1 – 107.9 (MHz)	Short

1. The system maintains the antenna length set at starting during SEEK, SCAN SEARCH and SCAN SHORT TIME HOLD.

⑤ Entering Service mode

Press and hold down simultaneously the first and last keys of a series of source switching keys, then set ACC (BACK UP is ON) to ON.

Example:



In the above example, press and hold down the [AM] and [CD] keys, then set ACC (BACK UP is ON) to ON.

⑥ Exiting Service mode

Set ACC or BACK UP to OFF.

(3) Precautions

① Service mode is an "antenna exchange mode" and only available with the 3-stage-variable type. In Service mode, the antenna length will be longer than that in AM mode.

② With models using both Security and Service modes, if an action to enter Service mode is made while the system is waiting for Security code to be input, the system invalidates that action and waits for input of Security code. Then, the system will not enter Service mode after Security code is input and accepted.

③ Switching sound sources is inhibited in Service mode.

④ The last source after canceling Service mode will be set as the last band of tuner.

6.4 SERVICE MODE FOR DSP AMPLIFIER

1. Outline
   This specifications details operation according to our suggestion for answering complaint about sound quality in audio systems. It is based on an assumption that a dealer or service person operate the product to solve the problem.

2. Sound Quality Service Mode Function
   Sound Quality Service mode has the following functions:
   ① Frequency characteristics adjustment : Specifies two points (frequency/dB value) of equalizer (EQ) to adjust frequency characteristics. Also adjusts attenuation.
   ② Level adjustment : Adjusts sound levels of the front and rear speakers and woofer.

3. Activating Sound Quality Service Mode
   Use the following steps to activate Sound Quality Service mode.
   ① Confirm that ACC is ON, then activate Diagnosis mode.
   (Operate according to the method of activation of Diagnosis mode specified for the system.)
   ② Press the [AM] button of H/U in the MENU screen in Diagnosis mode.

   The system enters Sound Quality mode. Then, the system beeps one time and displays “AUDIO.” You cannot return to Diagnosis mode by pressing a button from Sound Quality Service mode.

4. Canceling Sound Quality Service mode
   Setting ACC to OFF cancels Sound Quality Service mode. After that, the system will maintain sound quality set in Sound Quality Service mode.

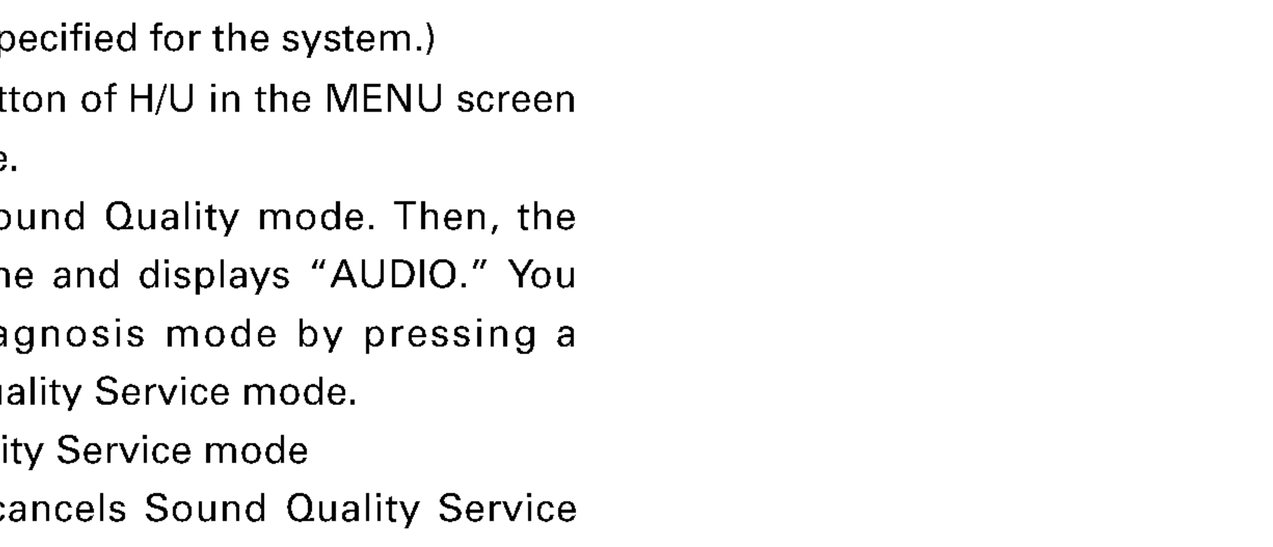


Fig. 20

Flowchart of activation/cancellation of Sound Quality Service mode

Sound Quality Service mode

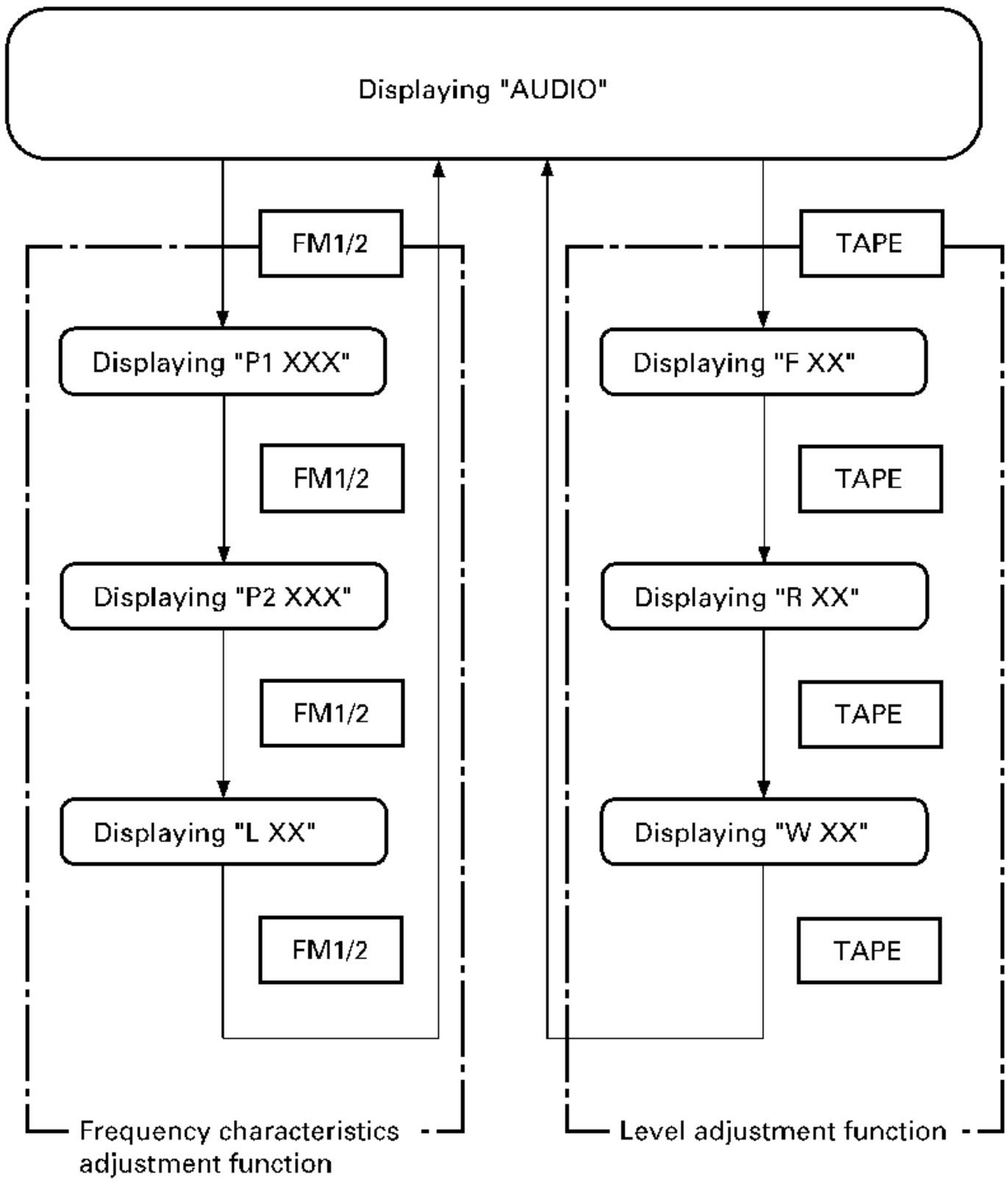


Fig. 21

Flowchart of displays in Sound Quality Adjustment mode

5. Details

① Frequency characteristics adjustment function

- The system changes submodes cyclically every time the [FM1/2] button is pressed when "AUDIO" is displayed.
  Set EQ Point 1 → Set EQ Point 2 → Set attenuation → "AUDIO"
- Set EQ Point 1
  The system displays “P1” and EQ management number. The EQ management number ascends/descends every time the UP/DOWN button is pressed.The EQ management number consists of three digits (000 to 286). Initial value is 000 (no setting).
- Set EQ Point 2
  The system displays “P2” and EQ management number. The EQ management number ascends/descends every time the UP/DOWN button is pressed. The EQ management number consists of three disits (000 to 176). Initial value is 000 (no setting).
- Set attenuation
  The system displays “L” and attenuation value. Use the UP/DOWN button to change attrnuation within a range from 0 to -20 dB at increments of 1 dB. Attenuation value is shown in two digits from 00 to 20 (20 = -20 dB). Initial value is 00 (no setting).

② level adjustment function

- The system changes submodes cyclically every time the [TAPE] button is pressed when "AUDIO" is displayed.
  Set front → Set rear → Set woofer → “AUDIO”
- Set front
  The system displays "F" and level value.Use the UP/DOWN button to change level value within a range from 0 to -80 dB at increments of 1 dB. Level value is shown in two digits from 00 to 80 (80 = -80 dB). Initial value is 00 (no setting).
- Set rear
  The system displays "R" and level value. Use the UP/DOWN button to change level value within a range from 0 to -80 dB at increments of 1 dB. Level value is shown in two digits from 00 to 80 (80 = -80 dB). Initial value is 00 (no setting).
- Set woofer
  The system displays "W" and level value. Use the UP/DOWN button to change level value within a range from 0 to -80 dB at increments of 1 dB. Level value is shown in two digits from 00 to 80 (80 = -80 dB). Initial value is 00 (no setting).

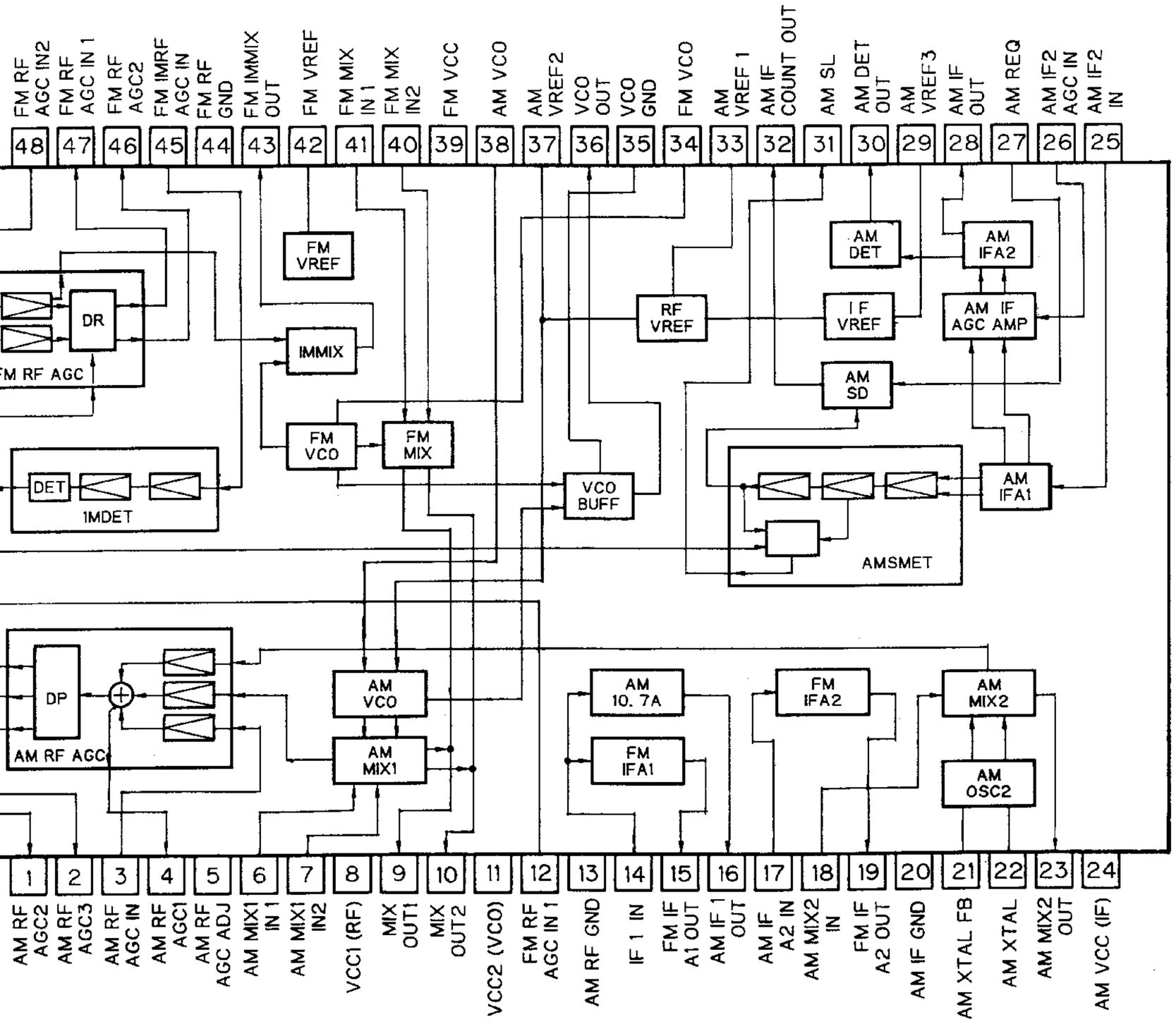
Notes:

1) Pressing the TAPE button during adjustment of frequency characteristics is invalid. Pressing the [FM1/2] button during level adjustment is invalid.
2) The UP/DOWN button mentiond above means the [SEEK] key.

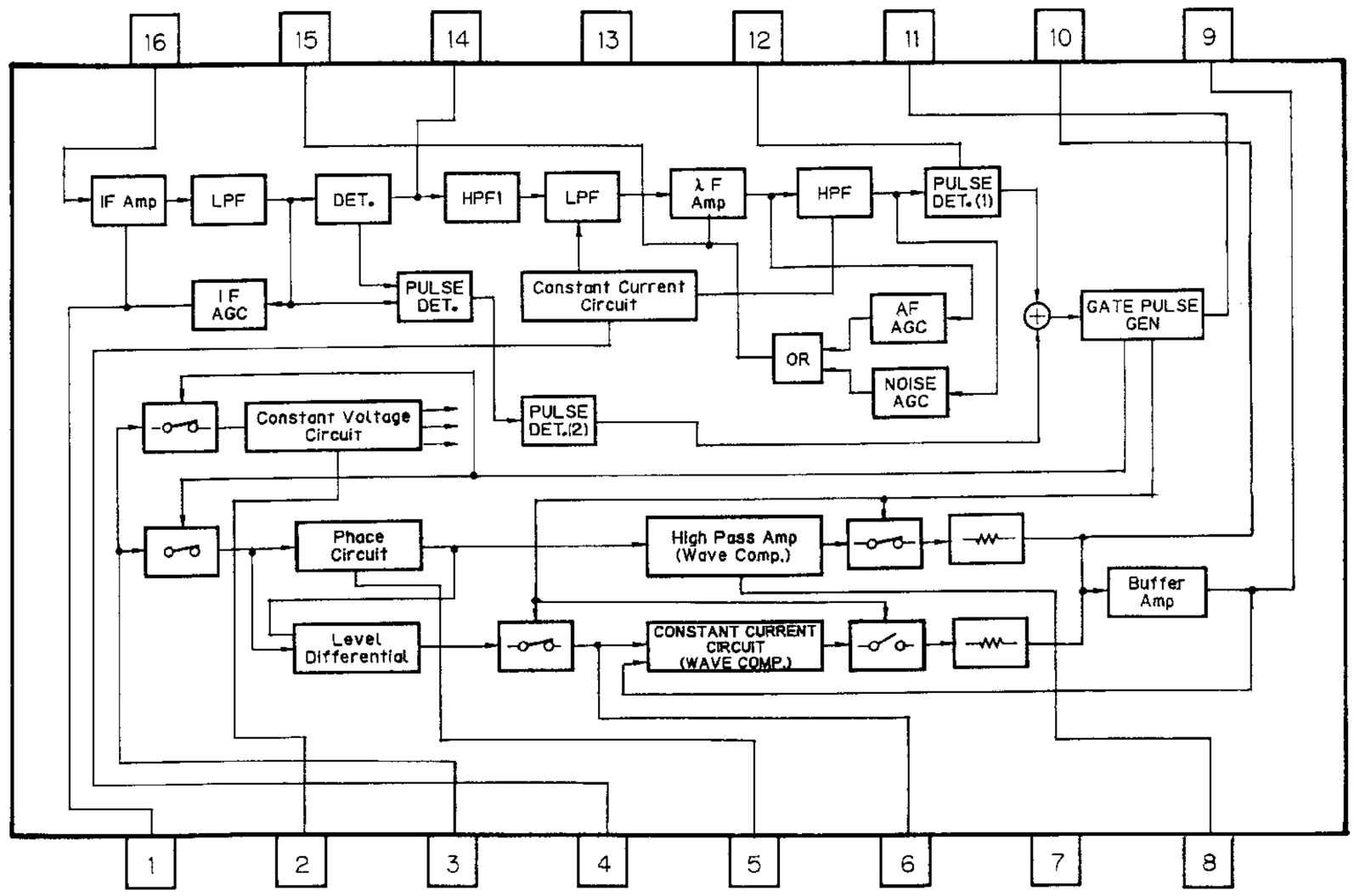
7. GENERAL INFORMATION

7.1 IC

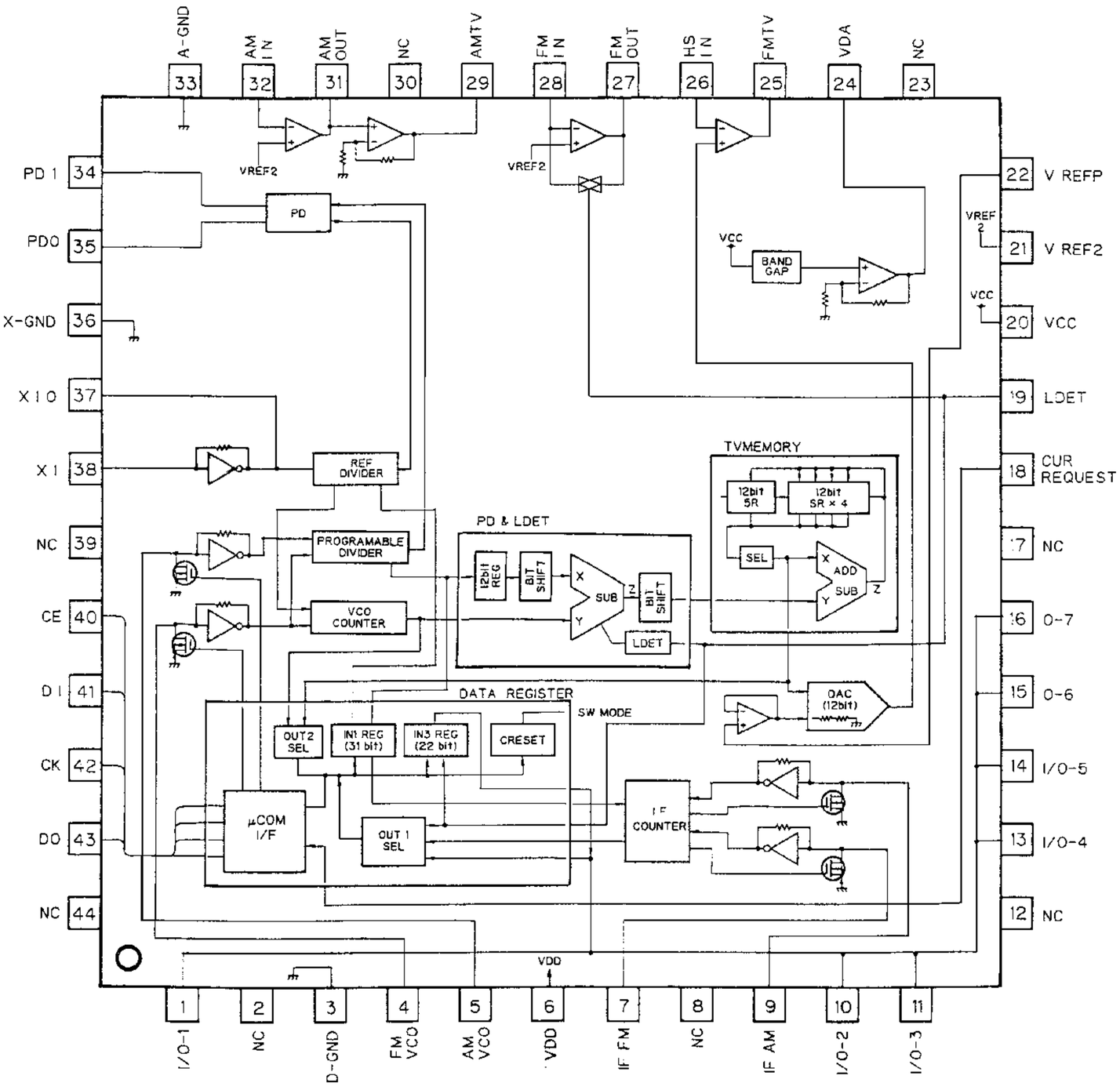
PA4026A



HA12181FP



PM2007A

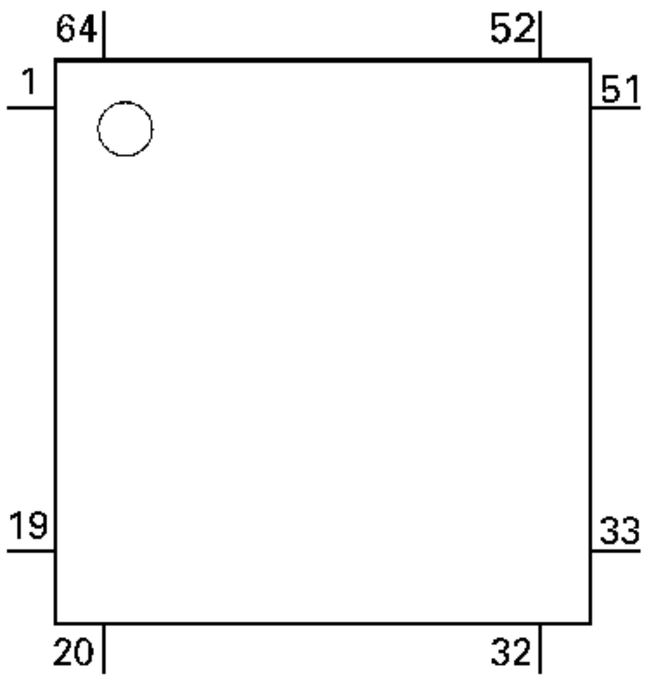


● Pin Functions (PD6217A)

Pin No.	Pin Name	I/O	Format	Function and Operation
1	PCK	O	N	PLL communications clock output
2	PDO	O	N	PLL communications data output
3	PDI	I		PLL communications data input
4	SL	I		Signal level input
5	NL	I		Noise level input
6	MDSENS	I		Demodulation detection input
7	SOUND	I		Detuning sense composite signal input
8	$\overline{\text{RMUTE}}$	O	N	RDS mute output
9-11	OPEN	O	N	L output
12	AVCC			5V power supply input
13	AVR			5V power supply input
14	AVSS			Connect to GND
15	IRSEL	I		µCOM select input
16	$\overline{\text{RCK}}$	I		RDS recovery modulation clock input
17	RDT	I		RDS recovery modulation data input
18	$\overline{\text{LDET}}$	I		PLL lock detection input
19	$\overline{\text{RDSLK}}$	I		RDSLK signal input
20	$\overline{\text{IRRST}}$	I		µCOM reset input
21	MOD0			Connect to GND
22	MOD1			Connect to GND
23	XIN	I		Oscillator input
24	XOUT	O	C	Oscillator output
25	VSS			Connect to GND
26	$\overline{\text{DRST}}$	O	C	Decoder reset output
27	L/S	O	C	Noise level sensitivity select output
28	$\overline{\text{CURRQ}}$	O	C	PLL-TV-Fix output
29	IRRDY	O	C	Communications ready output
30	RECIVE	O	C	Open

Pin No.	Pin Name	I/O	Format	Function and Operation
31	CORR	O	C	Open
32	ERROR	O	C	Open
33	NC	O	C	Open
34-37	NC	I		Open
38	DK	I		Open
39	SK	I		Open
40-49	NC	I		Open
50	VSS			Connect to GND
51	TEST	I		Test program input
52	$\overline{IRCK}$	I		Communications clock input
53	IRDO	O	C	Communications data output
54	IRDI	I		Communications data input
55	RDS57K	I		57kHz BP-OUT sense input
56	GD	O	C	Tuner unit gate line control output
57	VCC			5V power supply input
58	SD	I		SD signal input
59	PCE	O	C	PLL communications enable output
60-64	NC	O	N	Open

*PD6217A



Format	Meaning
C	C MOS
N	N channel open drain

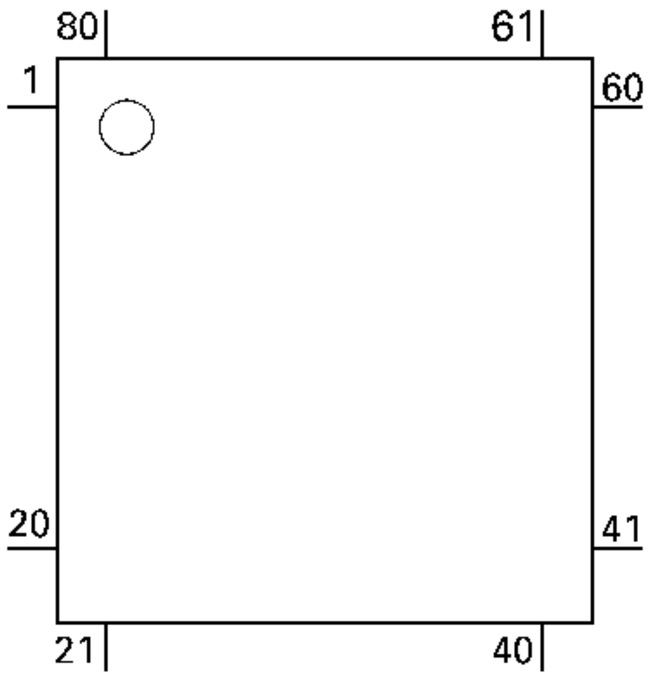
IC's marked by are MOS type.*
Be careful in handling them because they are very liable to be damaged by electrostatic induction.

● Pin Functions (PD4791D)

Pin No.	Pin Name	I/O	Function and Operation
1	FMD	I	FMPOWER power supply detection input
2	NC	I	Not used
3	ACC8D	I	ACC power supply detection input
4	AVSS		GND
5	AMPCE	O	PLL IC chip select output (for AMPLL)
6	FMPCE	O	PLL IC chip select output (for FMPLL)
7	AVR1		VDD
8	$\overline{\text{AMPDI}}$	I	Data input from PLLIC (for AMPLL)
9	PDO	O	Data output to PLLIC (for AM,FM)
10	PCK	O	Clock output to PLLIC(for AM,FM)
11	$\overline{\text{FMPDI}}$	I	Data input from PLLIC (for FMPLL)
12-14	NC	O	Not used
15	$\overline{\text{KST2}}$	O	Key strobe 2 output
16	$\overline{\text{KST1}}$	O	Key strobe 1 output
17	$\overline{\text{KST0}}$	O	Key strobe 0 output
18	NC	O	Not used
19	$\overline{\text{KD0}}$	I	Key return 0 input
20	$\overline{\text{KD1}}$	I	Key return 1 input
21	$\overline{\text{KD2}}$	I	Key return 2 input
22	$\overline{\text{KD3}}$	I	Key return 3 input
23	VOLDN	I	Lotaly encoder - input
24	VOLUP	I	Lotaly encoder + input
25	$\overline{\text{POWER}}$	I	Power supply switch input
26	NC	I	Not used
27	SYSPW	O	System power output
28	NC	O	Not used
29	MSIN	I	MS sense
30	$\overline{\text{F}}$/R	O	Head select
31	PLAY	O	MS gain select
32	$\overline{\text{MTL}}$	I	Metal tape detect
33	VSS		GND
34	$\overline{\text{B}}$/C	O	Dolby B/C select
35	NR	O	Dolby ON/OFF
36	LOAD	I	Loading detect
37	POS	I	Position sense
38	RES	I	Reverse end sense
39	NES	I	Normal end sense
40	SC2	O	Sub motor control 2
41	SC1	O	Sub motor control 1
42	CM	O	Capstan control
43	$\overline{\text{STBY}}$	O	TAPE standby output
44	$\overline{\text{VSEN}}$	I	Over voltage detect input
45	ILL	O	Illumination output
46-51	NC	O	Not used
52	ACCPW	O	ACC power output
53	TAPPW	O	Tape power output
54	FMMUT	O	FM mute output
55	SYSMT	O	System mute output
56	IPDO	O	Data output for AVCLAN driver
57	IPDI	I	Data input for AVCLAN driver
58	IPPW	O	Power supply control output for AVCLAN driver
59	HDON	O	Analog switch control output
60	$\overline{\text{RESET}}$	I	Reset input
61	SD	I	Station detector input (for FM)
62	$\overline{\text{ASEN}}$	I	ACC sense input
63	$\overline{\text{BSEN}}$	I	Back up sense input
64	$\overline{\text{ISEN}}$	I	Illumi sense input

Pin No.	Pin Name	I/O	Function and Operation
65	NC	O	Not used
66	$\overline{\text{EJECT}}$	I	TAPE eject sense input
67	NC	O	Not used
68	VDD		Power supply
69	X2		Oscillator output
70	X1		Oscillator input
71	IC		Connect to GND
72	XT2		Open
73	TESTIN	I	Test input
74	AVDD	I	A/D converter analog power supply
75	AVREF0		A/D converter reference voltage input
76	FMSL	I	PLL signal level for FM
77	AMSL	I	PLL signal level for AM
78	SMODE	I	Service mode input
79	TAPD	I	TAPEPOWER power supply detection input
80	AMD	I	AMPOWER power supply detection input

*PD4791D



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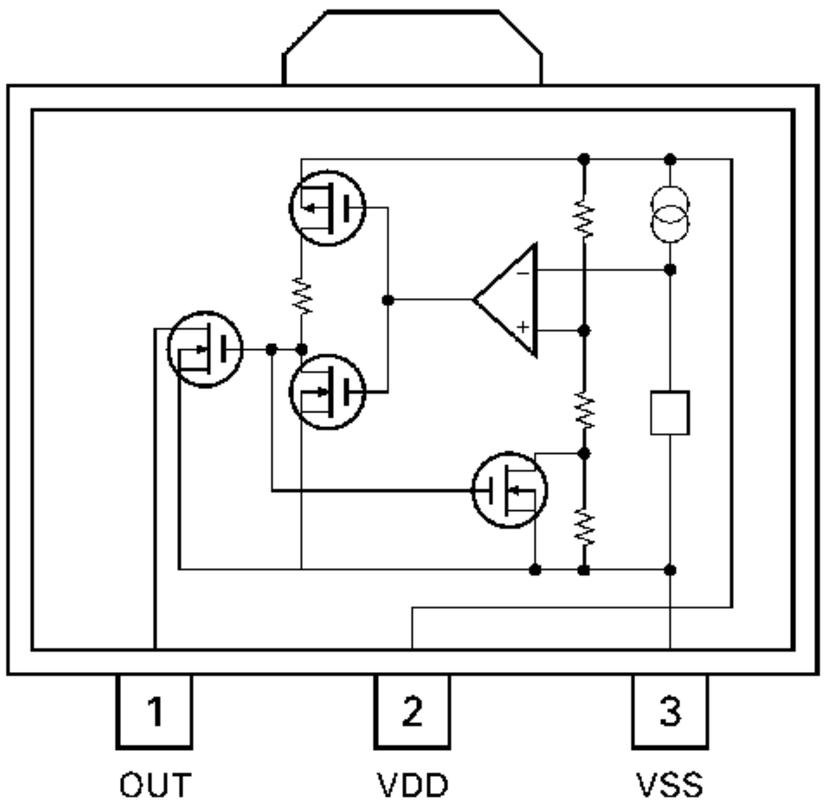


7.2 DIAGNOSIS

7.2.1 DISASSEMBLY

● **Removing the Case(not shown)**

1. Insert and turn a flat screwdriver at locations indicated by arrows to remove the Case.

● **Removing the Cassette Mechanism Module(Fig. 22)**

1. Remove the four screws.
2. Disconnect the connector.
3. Remove the Cassette Mechanism Module.

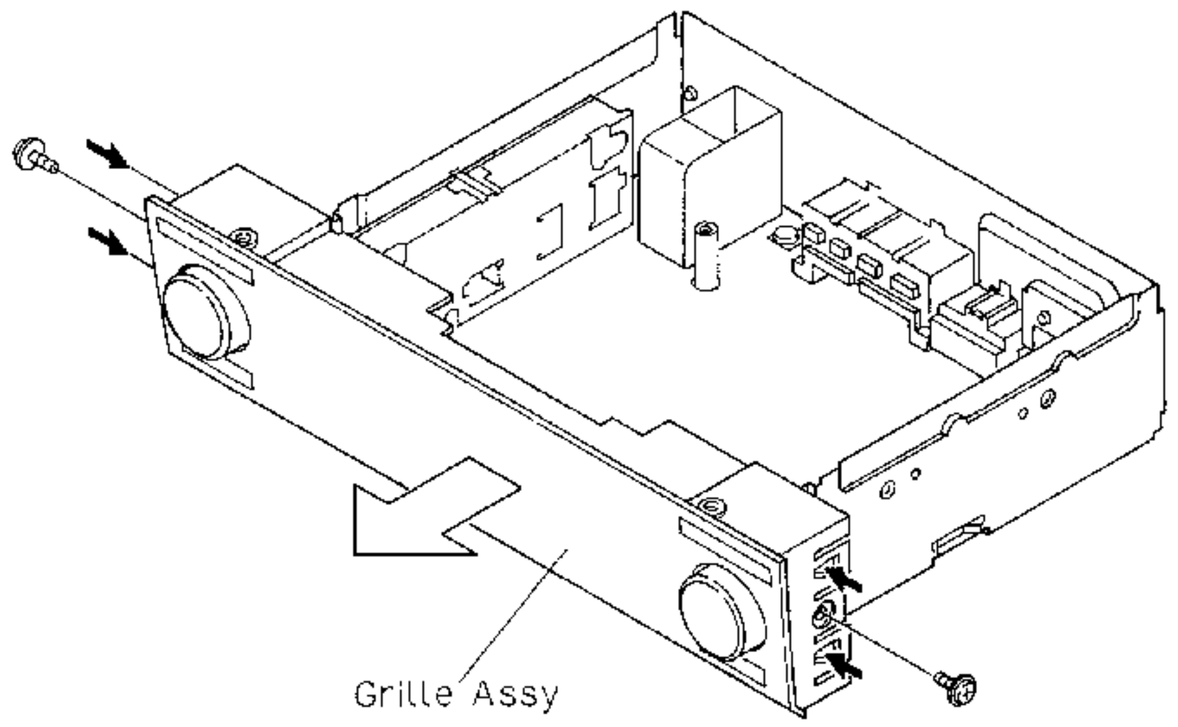


Fig. 22

● **Removing the Control unit**

1. Remove the two screws A,screws B.
2. Stretch the two clows,and then remove the Control Unit.

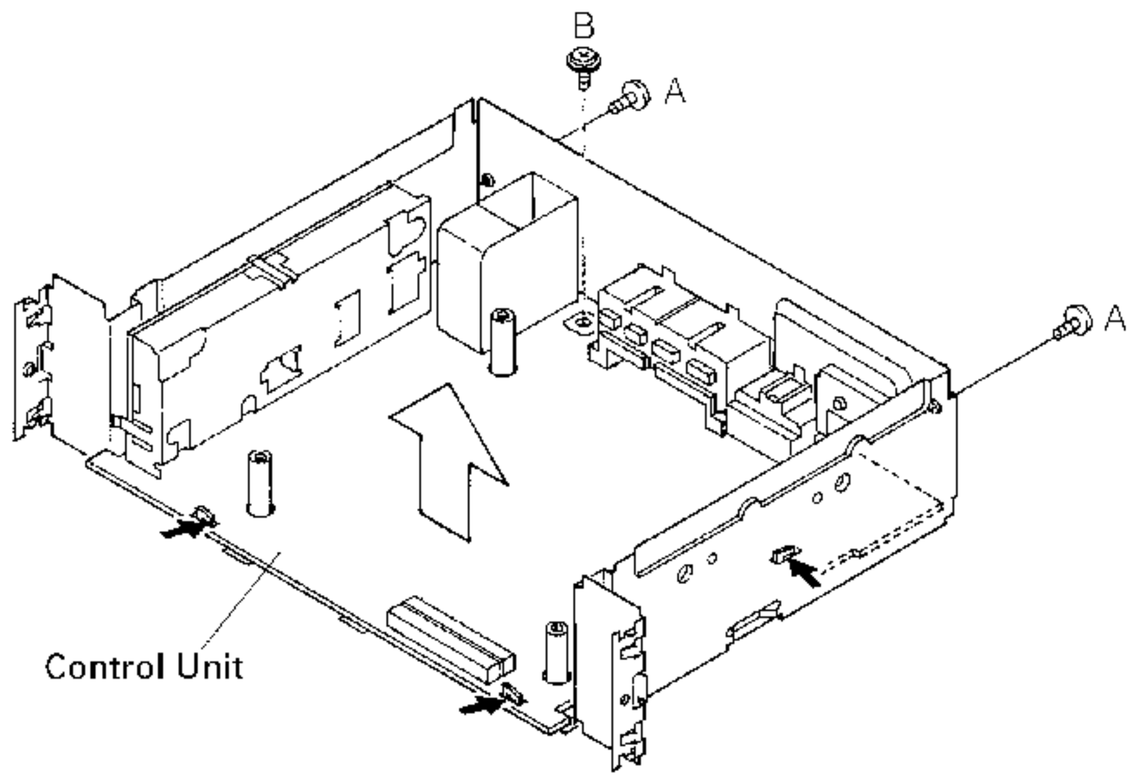
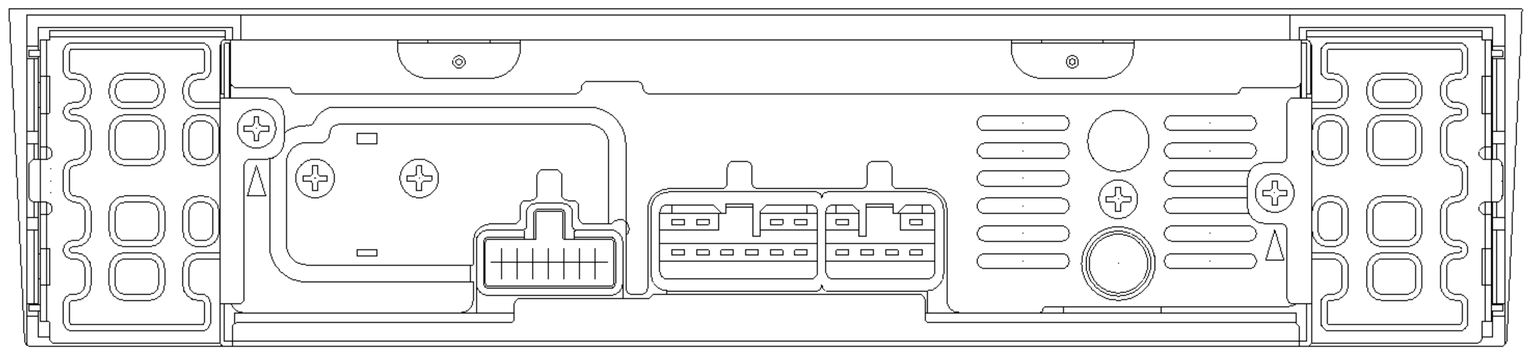
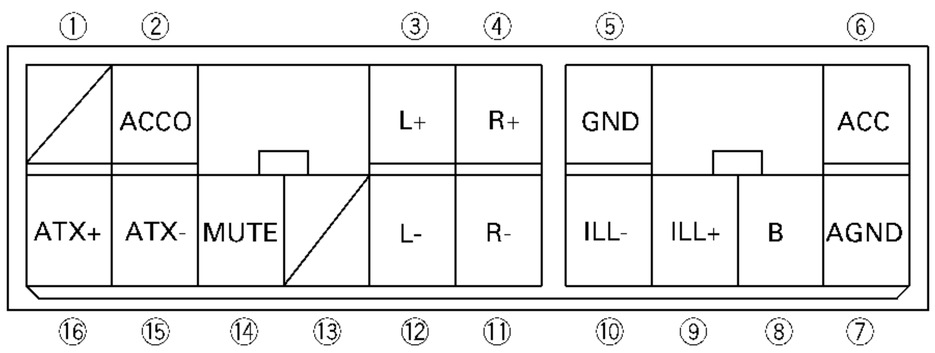


Fig. 23

7.2.2 CONNECTOR FUNCTION DESCRIPTION

Pin No.	Pin Name
①	-
②	ACCO
③	L+
④	R+
⑤	GND
⑥	ACC
⑦	AGND
⑧	B
⑨	ILL+
⑩	ILL-
⑪	R-
⑫	L-
⑬	-
⑭	MUTE
⑮	ATX-
⑯	ATX+





Pin No.	Pin Name
①	TX-
②	TX+
③	ANTB
④	ANTA
⑤	ANT
⑥	-
⑦	-

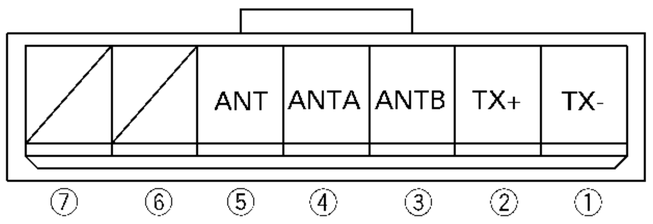


Fig. 24

7.3 EXPLANATION

7.3.1 BLOCK DIAGRAM

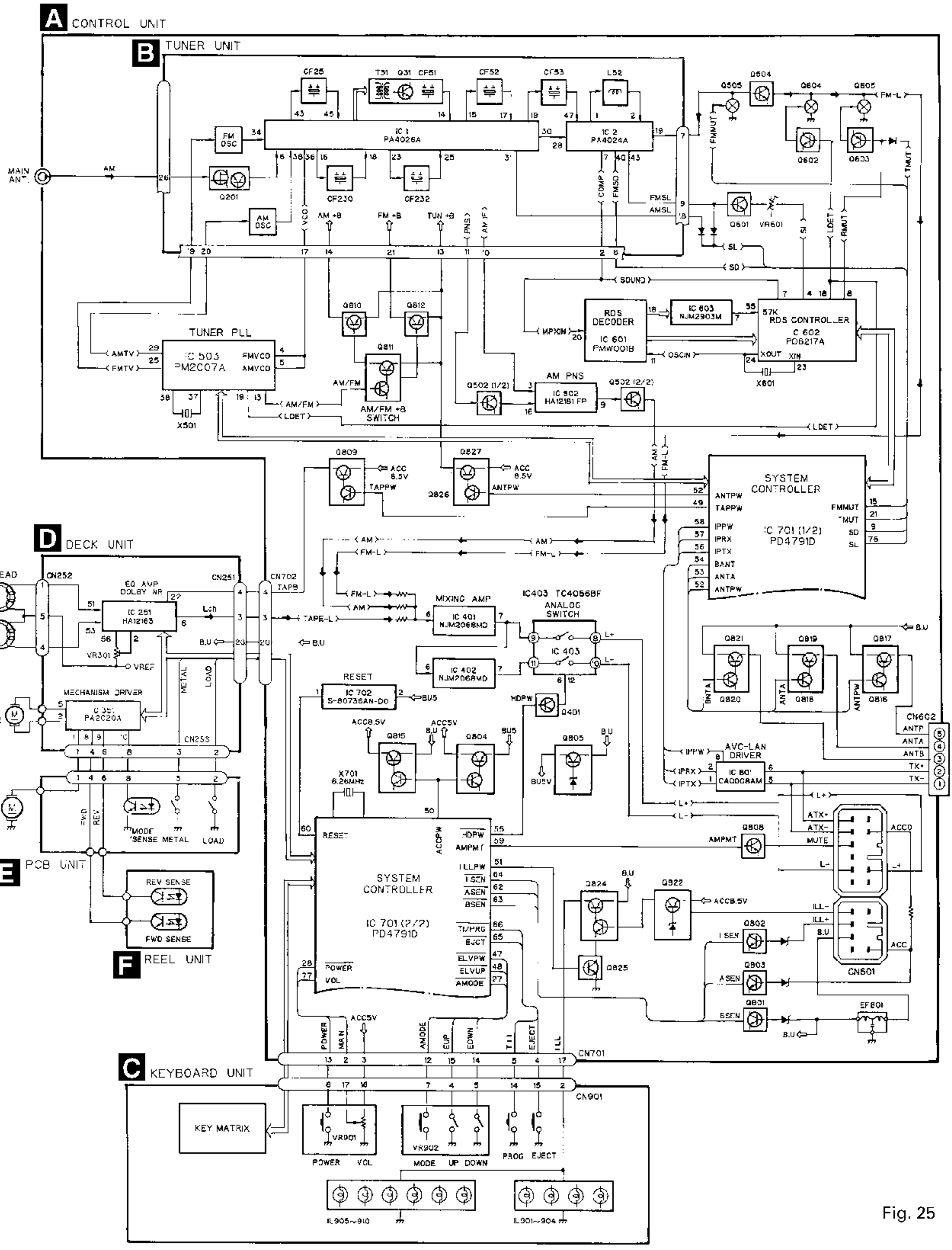


Fig. 25

7.3.2 SYSTEM BLOCK DIAGRAM

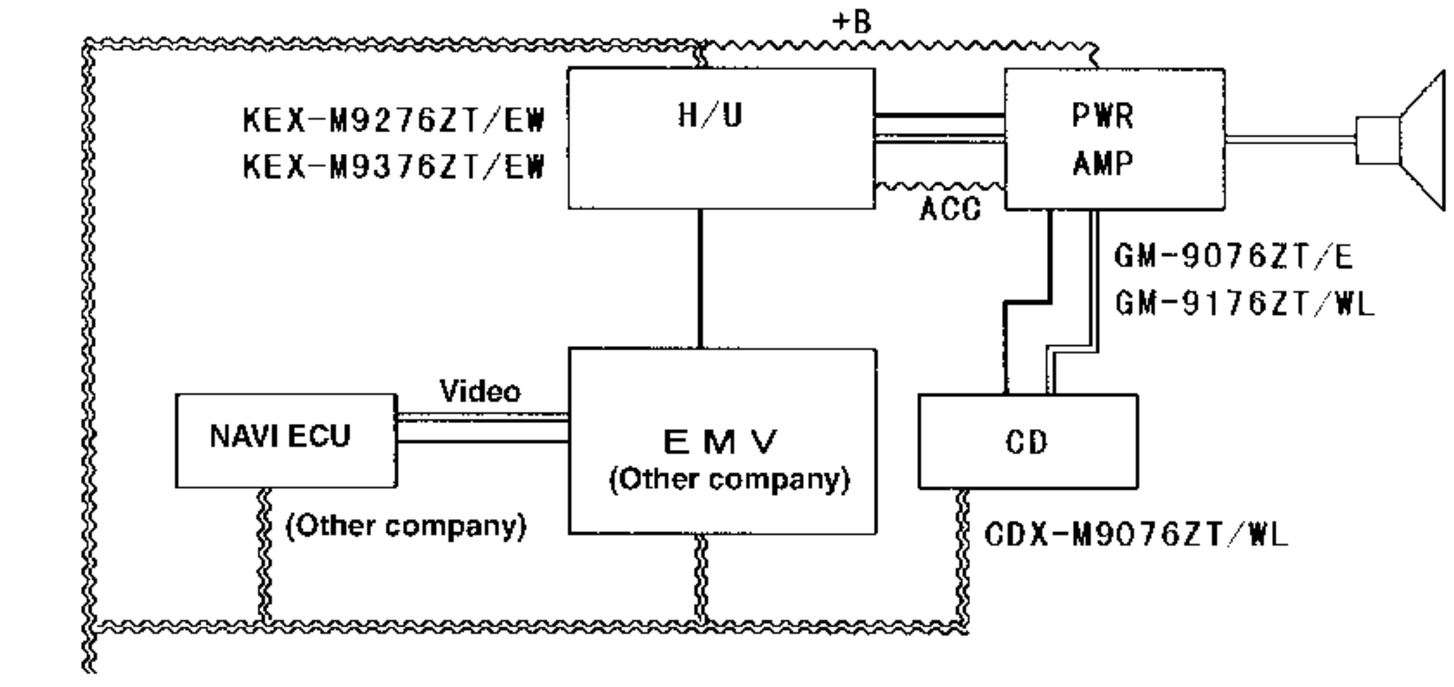


Fig. 26

8. OPERATIONS AND SPECIFICATIONS

8.1 OPERATIONS(KEX-M9276ZT/EW)

● **TAPE**

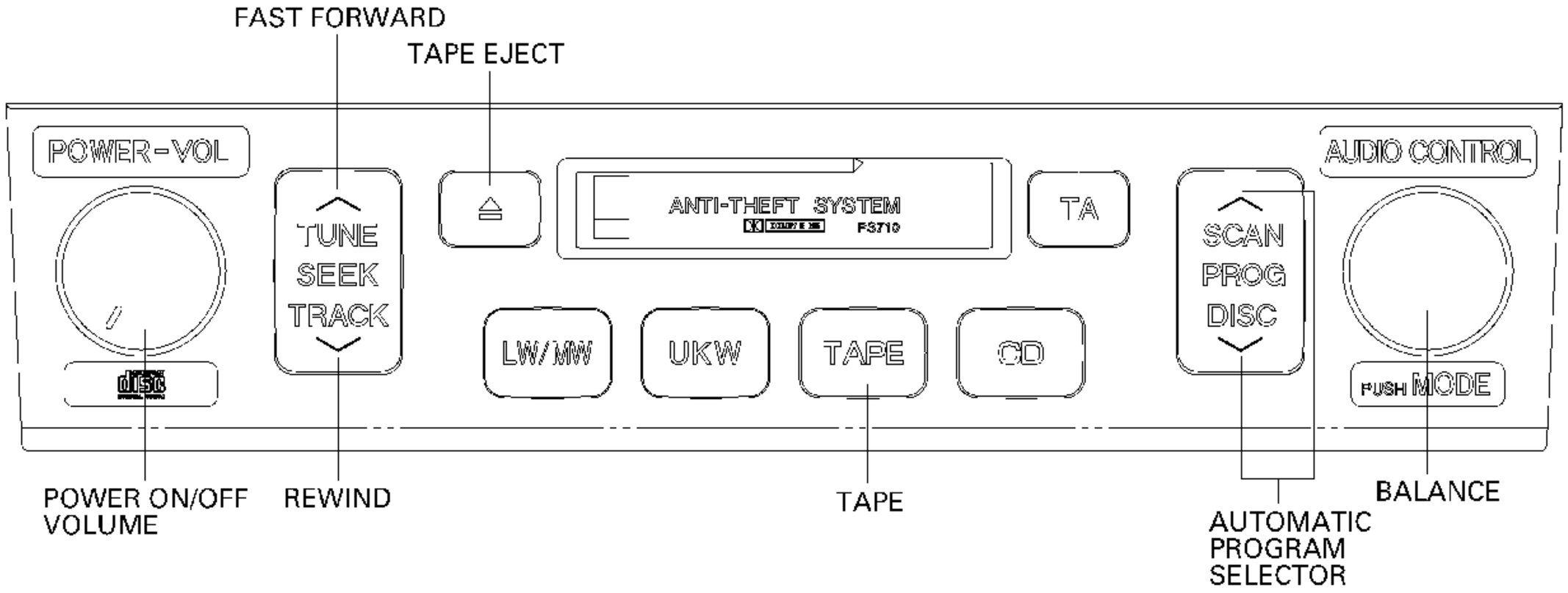


Fig. 27

● **RADIO**

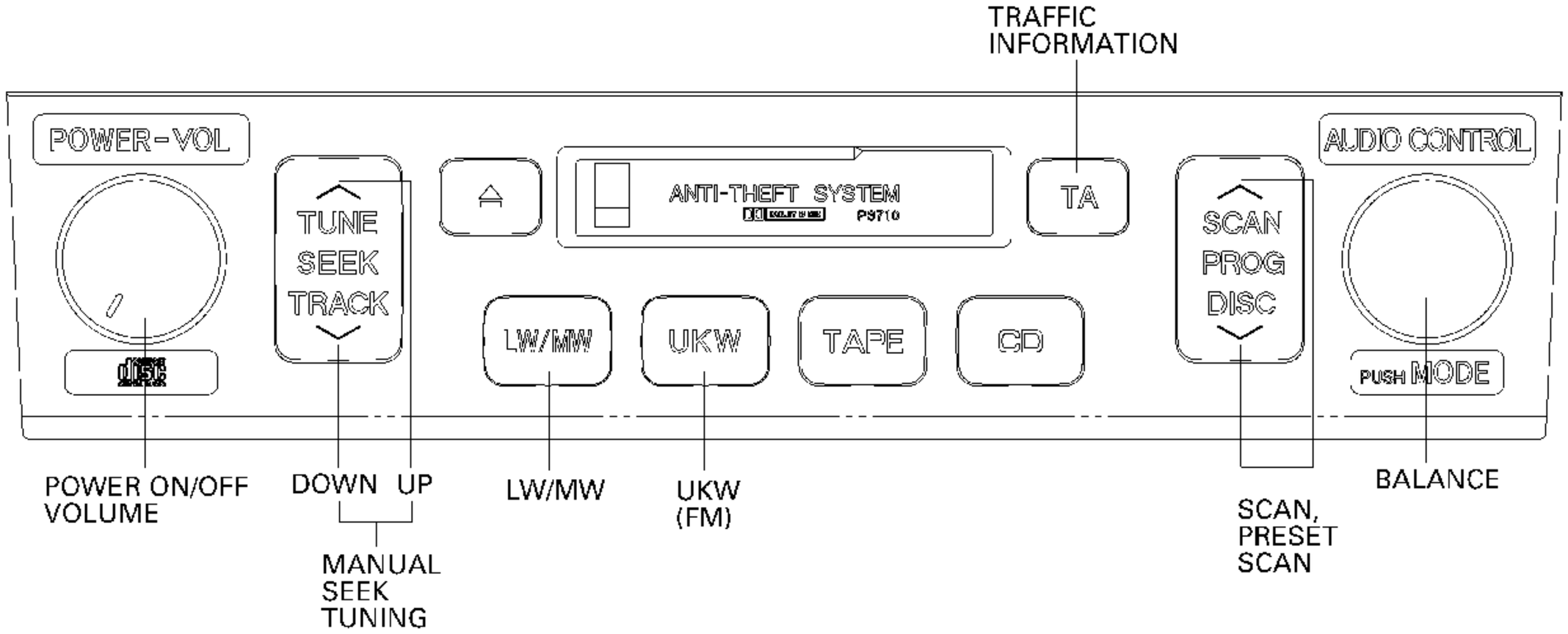


Fig. 28

● CD

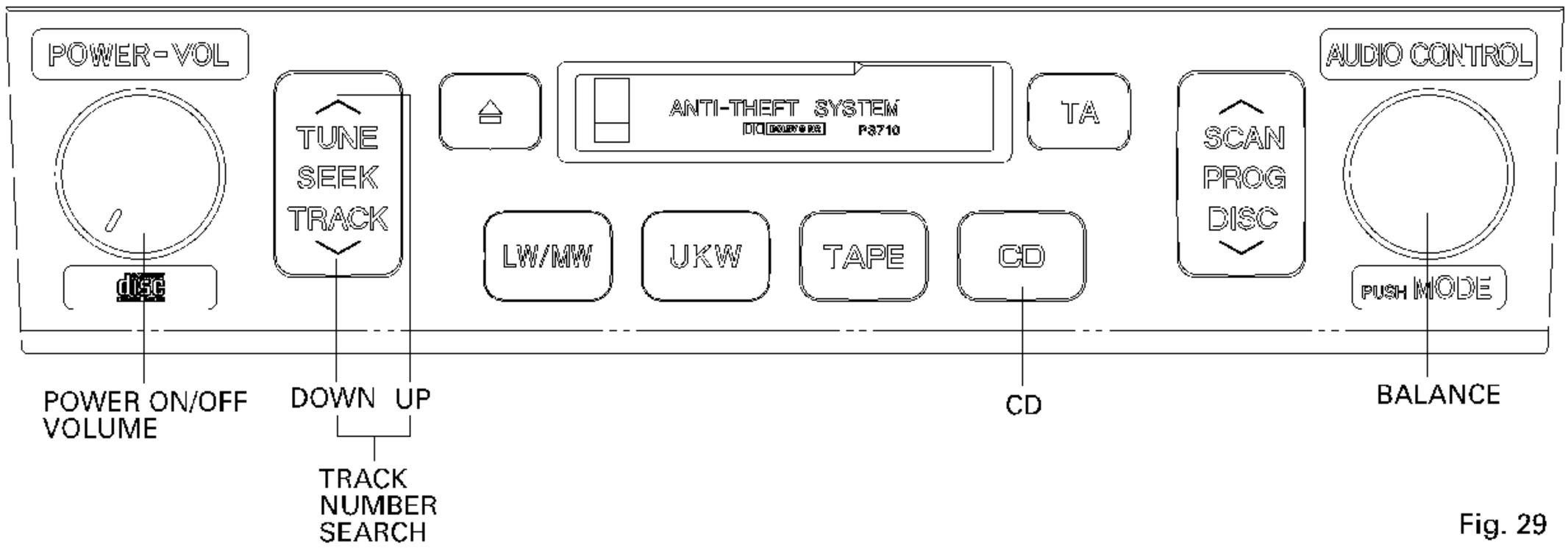


Fig. 29

8.2 SPECIFICATIONS

General
Power source .....13.2 V (10.5 V -16.0 V allowable)
Grounding system .....Negative type
Dimensions (cheassis) .....246.7 (W) × 55 (H) × 170.9 (D)
(nose).....241 (W) × 50 (H) × 165 (D) mm
Weight .....1.27 kg

Tape player
Tape .....Compact cassette tape (C -30 - C90)
Tape speed .....4.76 cm / sec. (+0.14 cm / sec., -0.05 cm / sec.)
Wow&flutter.....less than 0.2%(WRMS)
Fast forward/rewind time.....less than 120sec. for C -60
Stereo separation.....more than 30 dB
Signal-to-noise ratio .....more than 40 dB

FM(UKW)tuner
Frequency range.....87.5 - 108.0 MHz
Usable sensitivity.....4 dBu ±6dB
Signal-to-noise ratio .....more than 50 dB
Distortion .....less than 1.5 %
Stereo separation .....less than 3.0 %

MW tuner
Frequency range .....531 - 1,602 kHz
Usable sensitivity .....27 dBµ ± 5 dB (S / N : 20 dB)
Selectivity.....more than 50 dB (±9 kHz)
Signal-to-noise ratio.....more than 44 dB (74 dBµ)
Distortion.....less than 1.0% (74 dBµ)

LW tuner
Frequency range .....153 - 281 kHz
Usable sensitivity .....30 dBµ ± 5 dB (S / N : 20 dB)
Selectivity.....more than 50 dB (±9 kHz)
Signal-to-noise ratio.....more than 40 dB (74 dBµ)
Distortion.....less than 1.5%(74 dBµ)

PIONEER ELECTRONIC CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153, Japan
PIONEER ELECTRONICS SERVICE INC. P.O.Box 1760, Long Beach, CA 90801-1760 U.S.A.
PIONEER ELECTRONIC [EUROPE] N.V. Haven 1087 Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS ASIACENTRE PTE.LTD. 501 Orchard Road, #10-00, Lane Crawford Place, Singapore 0923

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